TEXTILE WORLD

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McGraw-Hill Publication ---------- AUGUST • 1946

Blanco Mill of the Cia. Industrial de Orizaba, S.A.

MEXICO'S TEXTILE INDUSTRY

Page 87

THE JACKSON LABORATORY . . . where Du Pont Dyestuff Research is carried on. Full attention is again concentrated on peacetime studies.

Bring your coloring problems to Du Pont. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

Du Pont Dyestuffs

DU PONT

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

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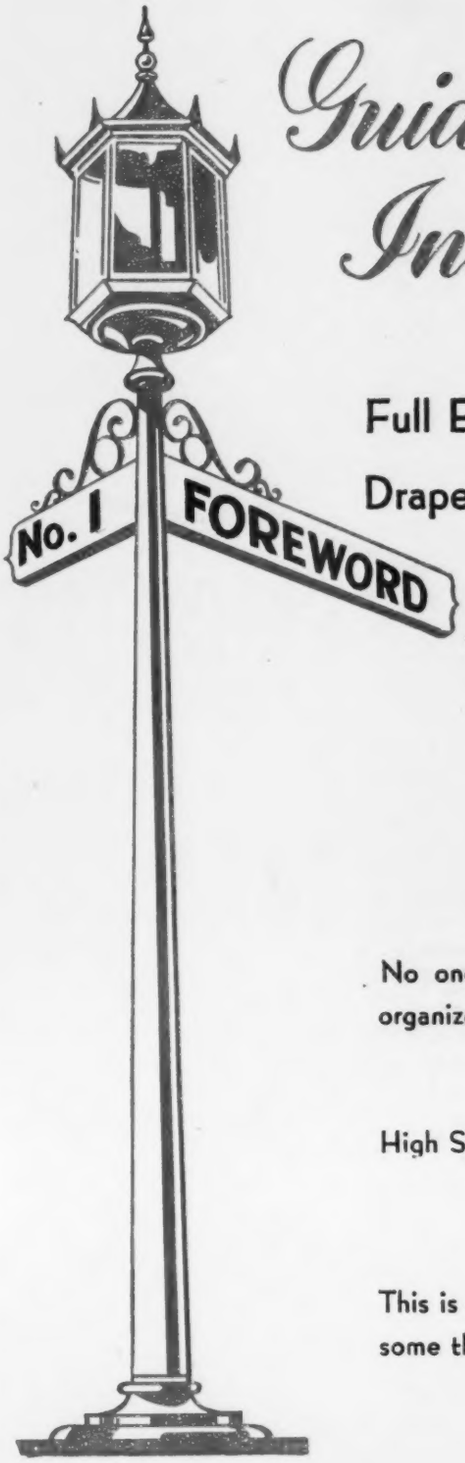

Guide Posts to Increased Production

Full Efficiency of Draper High Speed Looms Is Possible Only

WITH

The Best of Loomfixing
Adequate Lubrication
High Grade Yarns
The Best of Modern Slashing
Proper Humidity and Temperature Control

No one man can be an Expert in all these lines. You need organized and intimate supervision of each one.

Are You Getting It?

High Speed Looms have changed requirements in many particulars. Things once of little importance have become Matters of First Importance.

This is the First of a Series of Ads in which we will try to tell you some things Mills should do on High Speed Looms to

Insure the Best in Quantity and Quality of Product

First in a Series

Of What Well-Managed Mills Are Doing to Get the Best Results in Weaving

DRAPER CORPORATION
HOPEDALE, MASSACHUSETTS

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SMOOTHER STRONGER YARN

WHEN fibres are conditioned with *Texaco Texspray Compound* they stay soft and supple, with more long staple and more uniform count. *Texspray Compound* minimizes static, prevents card loading, and reduces "eyebrows." Working conditions are improved by a 75% reduction in fly and dust.

Texaco offers two important advantages over other methods of fibre conditioning. (1) Texaco's exclusive, patented applicator is located in the beater chamber, thus applies conditioner to clean stock only. (2) The conditioner—*Texspray Compound*—is applied by direct contact, assuring uniform application. There is no atomization by compressed air, hence reduced fire-hazard.

More than ten years use in leading mills has demonstrated the effectiveness of Texspray Fibre Conditioning in improving both yarn quality and production efficiency.

You can enjoy the benefits of Texspray Fibre Conditioning if your mill is located anywhere in the principal textile areas of the U. S. Call the nearest of the more than 2300 Texaco distributing plants in the 48 States, or write:

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TEXACO

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

TUNE IN THE TEXACO STAR THEATRE WITH JAMES MELTON EVERY SUNDAY NIGHT—CBS

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THE *Long-Range* VIEW

Production Points to Decontrol

Many economists have agreed that all-out production is the best antidote to threats of inflation. However, since V-J Day, all-out production in many lines has been held up by many things, including government red tape, strikes, etc. Probably such inflation as we have today is proportional to the degree to which industrial production has failed to meet current immense demand. If all lines of production could have matched the accomplishments of textiles, we now might soon be seeing the end of the inflation threat.

Production restraints have been less stringent in textiles than in many other fields, and the statistical position of the primary market for textiles at present is one of the best safeguards against runaway prices. Only if the industry snatches at every opportunity for price increases will textile price levels rise to such an extreme point as to threaten drastic and destructive recessions at a later date.

Look at the production figures (actually raw-fiber consumption figures) for the first six months of 1946 in comparison with the first six months of 1939. The latter may be taken as a fair norm. Raw cotton consumption averaged 806,708 bales per month in the 1946 period against 589,727 in 1939, a gain of 36.8%. Apparel wool consumption (scoured basis) averaged 51,740,000 lb. per month in 1946 against 22,178,000 in 1939, a gain of 133.7%. Rayon filament and staple fiber production averaged 70,900,000 lb. per month in 1946 (based on first quarter) against 30,000,000 in 1939, a gain of 136.3%. Cotton volume is running over a third again as much, wool and rayon over twice as much as the prewar rate. Who can say that textile production is not going places?

Last fall and for the first quarter of 1946 it seemed a bit mysterious how it could be that mills were chewing up fibers and shipping fabrics, yet goods and garments on the market were getting scarcer and scarcer. Certainly inventories from mill to retailer were at virtual zeros last fall after the buying boom that followed the war's end. The biggest Christmas trade ever recorded didn't give much chance for stock accumulations. National income remains high and retail sales in 1946 are already outstripping 1945.

Now the trend is in the direction of normalcy. Stocks have been increasing to a small extent; and, although poorly assorted and spottily held, they are more in evidence. In fact, there has developed an over-supply of light-weight wool fabrics; and there may develop within six months a surplus in some other lines. However, oversupply is not yet dangerous.

Mill executives will make their contribution to the general welfare in the long pull by continuing their production drive and by continuing to fight, along with their association executives, for relaxed controls and free markets as the quickest way to achieve the types of goods which will satisfy users, give jobs to workers, and level out the bulges that otherwise might mar the price curve.

The revival of the moribund OPA is an extra burden that must be carried for a few more months. The upswing of raw cotton prices last month to levels not touched for 23 years is another puzzle and problem. Actually manufacturers, who carry substantial cotton stocks bought largely in 1945, could make more profit by selling their cotton in the 30¢ range than by making up goods at the old OPA price ceilings. Allocations, MAP, and cut-off prices have distorted the market for clothing fabrics by turning normal men's-wear mills to women's-wear production, and by penalizing the making of regular-weight winter overcoatings. These and other barriers must not be allowed to restrain maximum production of the types of textiles needed. MAP, fortunately, is no more.

Nor should any encouragement be given to excessive prices. Mills which may try such a policy will not only have a very short-lived gain, but they stand a great chance of pulling the market down on their own heads and on the heads of their contemporaries. The fact that extravagant upsurges are inevitably followed by extravagant collapses seems to be one of the few immovable and constant economic phenomena in this world of constantly shifting thoughts and principles.

Actually the rising tide of production should protect the industry from the likelihood of that initial price upsurge. The de-control phase of the new OPA is timely and might well be promptly applied to textiles.

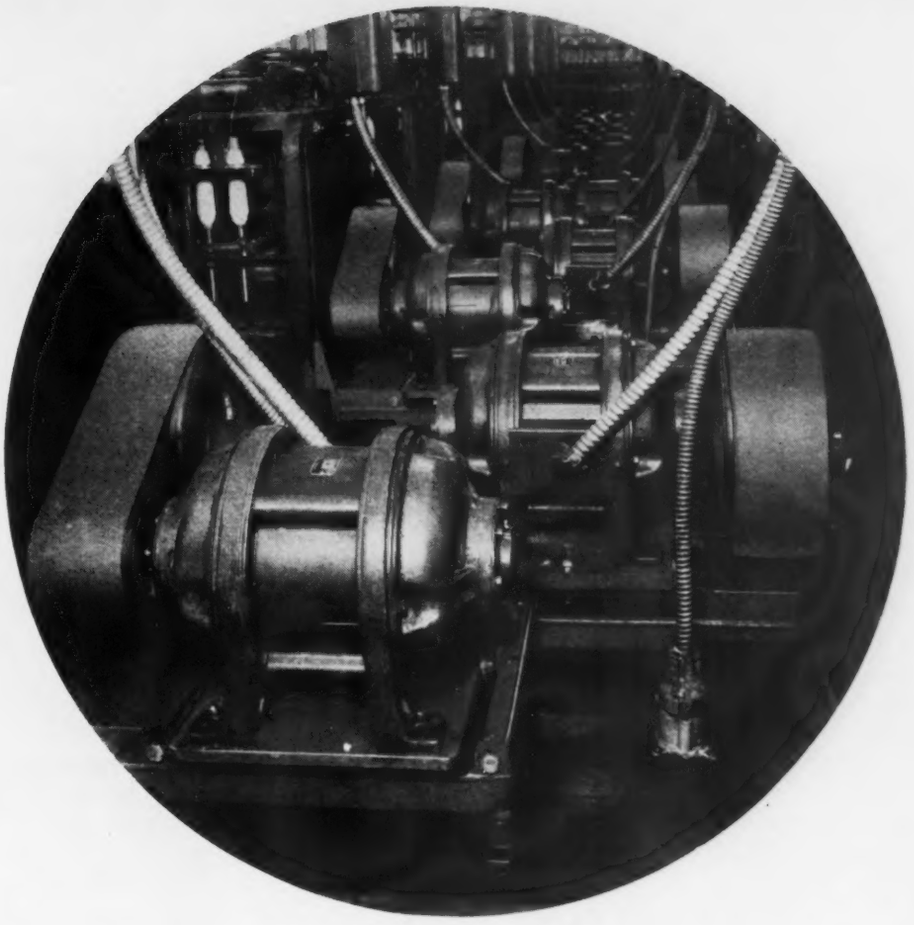
William B. Dall

MANAGING EDITOR

BE SURE

IT'S *Tannate*-

FOR HIGH EFFICIENCY ON SHORT CENTER DRIVES



Tannate flat belt short center drives assure correct belt tension at all times—regardless of load, centers or unusual conditions; proper tension is automatically maintained. This means longer service life for your equipment as it is relaxed between peak load.

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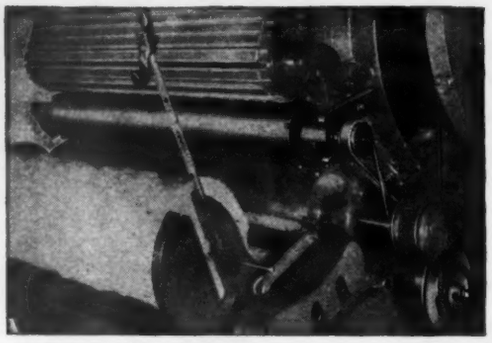
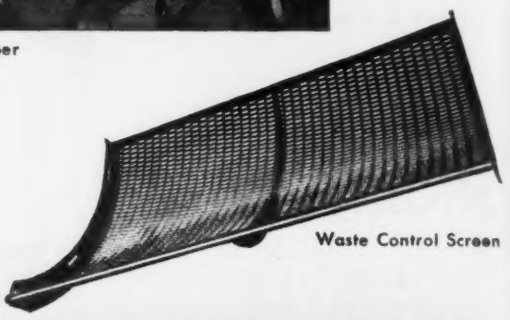
Tannate-Rockwood SHORT CENTER DRIVE

#11 Dust and Waste Extractor



Continuous Stripper

3 Cleaning Units



Waste Control Screen

THAT MAKE IT EASIER TO MAKE GOOD CLOTH

While not all of the impurities that find their way into the finished yarn package can be entirely eliminated, their number can be greatly reduced and kept to a reasonable minimum.

There are 3 effective cleaning units where the great bulk of foreign particles can be attacked and removed from the stock.

The Saco-Lowell #11 Dust and Waste Extractor is the first point of attack against these minute particles. Here the great bulk of fine peppery leaf and dirt is removed. The next point of attack is at the card. Here, by using a "combat team" composed of the Continuous Stripper and the Waste Control Screen, it is possible to keep the cylinder wire in such an active condition that there is a definite reduction in the amount of nep, leaf and other impurities in the web.

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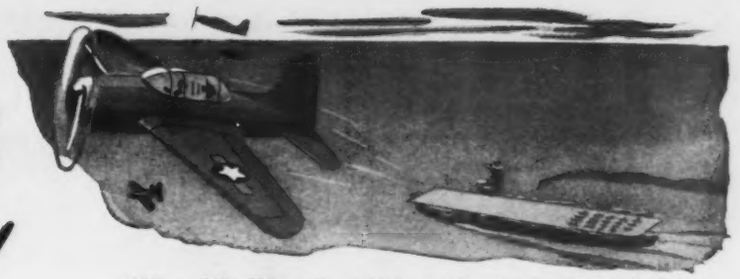

"What We Want" said Navy, "are ½-hour rated elevator motors that'll lift planes from carrier hangar decks, up at 42 ft, down at 52 ft a minute. And they must be exceptionally dependable—under all conditions—because these planes have to be in the air when we need 'em!"

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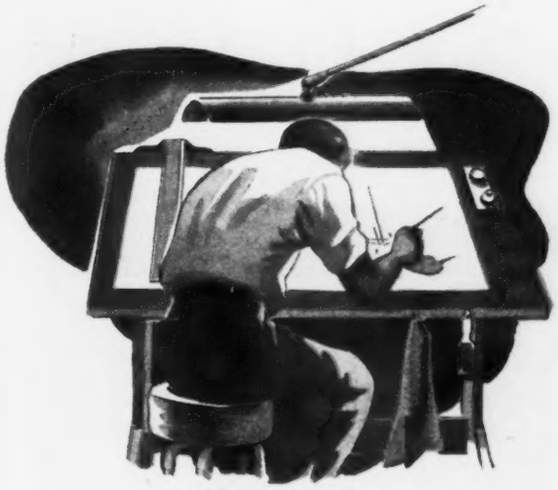
Whew! High elevator speed, low motor speed . . . stronger . . . lighter . . . smaller — this'll take 6 months to design! Then we rolled up our sleeves, tackled first the problem of developing extremely high torque for fast starting under load — solved it with a special field.



How To Get Light Weight — yet maintain the generous motor design for which we are famous — presented still another problem. This one we solved by skilful substitution of copper for steel . . . of war-proved fabrication for casting. Yes, we cut down weight *and* maintained ample, generous design!

Came the Big Surprise! After we put on finishing touches — special corrosion-resistant marine parts, new kind of insulation — we added up design time . . . just one month! And much-needed motors were rolling off the lines less than 4½ months later.

A 1998

Significance: The creative engineering that goes into solving *special* motor problems, like this one, also points out new ways to build better *standard* motors for you! Watch for these new and better motors from A-C. ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN.

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ALLIS-CHALMERS MOTORS!

Garment plant rejuvenated by paint —contractor gives all credit to . . .

ANDREW KROTJE
18 Broad Street
Middletown, N. Y.

Feb. 14, 1946

Mr. Charles F. Quinn
c/o W. M. Seeley & Son
18 King St.
Middletown, N. Y.

Dear Mr. Quinn,

We just completed "MISS SWANK, INC." interior surface, 7 Canal St., Middletown, N. Y. with SPRAY-DAY-LITE. Altho we have sprayed several hundred gallons of this material, it appears we got better results on each job.

Of course, in our years of spraying we have used many brands of paint. However, since our first job with your SPRAY-DAY-LITE we have made GLIDDEN SPRAY-DAY-LITE OUR STANDARD.

Yours truly,

Andrew Krotje

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SPECIALIST IN INTERIOR & EXTERIOR SPRAY PAINTING

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PAINTER and PAPER HANGER
488½ NORTH STREET
MIDDLETOWN, N. Y. Feb. 15, 194

Mr. Charles F. Quinn
c/o W. M. Seeley & Son, Inc.
18 King Street
Middletown, N. Y.

Dear Mr. Quinn,

Recently I used BRUSH-DAY-LITE on the "Miss Swank, Inc." building, 7 Canal St., Middletown, N. Y. While SPRAY-DAY-LITE was used on walls and ceilings, I put in about a thousand lites of glass and did considerable woodwork with BRUSH-DAY-LITE.

In all my years of experience (I started as an apprentice to learn my trade) I have never found a better material for this type of work.

Yours very truly,

Roy E. Gonsoles

Roy E. Gonsoles

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Now there's also
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All of the established advantages of famous GLIDDEN SPRAY-DAY-LITE are now offered you in BRUSH DAY-LITE especially formulated for brush application.

Glidden

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4. **Its intense white does not yellow with age (also available in 10 beautiful colors).**
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TIME-TESTED

Pacemaker in Paints

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Tells and *shows* you how to follow scientific, E-Z-C Color-Planning in painting machines and interiors to ease eyestrain, boost production, reduce accidents. If all the guidance you need isn't in this book, a request to the Glidden Color Studio will bring you further help from our color engineers.

THE GLIDDEN COMPANY, Dept. T-8
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- ☐ You may send your new SPRAY-DAY-LITE Color Chart showing the 10 beautiful shades and suggested color combinations.
- ☐ You may have representative call and demonstrate SPRAY-DAY-LITE in our premises without obligation on our part.
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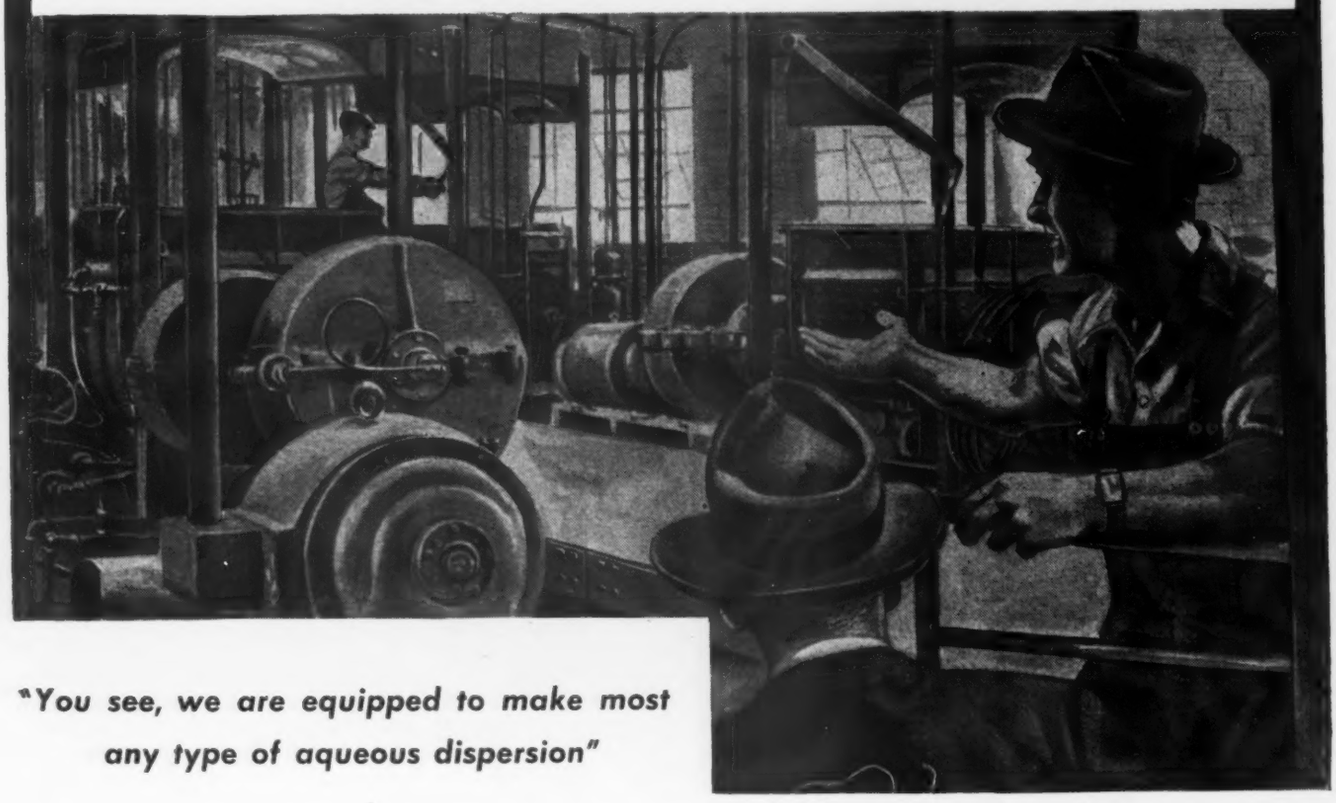

"You see, we are equipped to make most any type of aqueous dispersion"

If you are faced with a problem involving a water dispersed rubber or resin . . . put it up to Flintkote.

You'll find Flintkote technical representatives—backed by half a century of research and practical experience—ready and able to take care of your every need. The chances are, these men can suggest an available Flintkote product . . . the one which is best suited to your needs.

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Rugged New Departure Ball Bearings lick friction with free-rolling, tough, forged steel balls.

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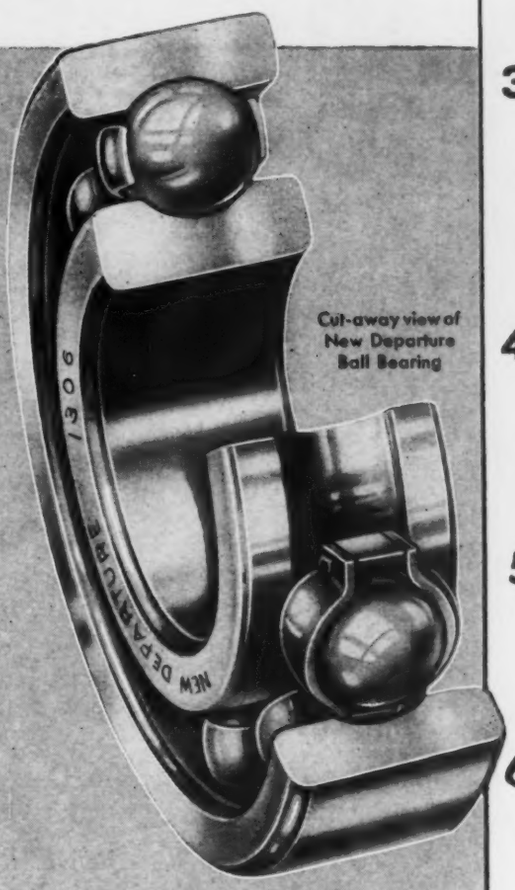
And . . . most important of all, New Departure, world's greatest ball bearing maker, meets your particular problems with a vast fund of experience and *original thinking.* 3412



Cut-away view of New Departure Ball Bearing

UNITED SERVICE MOTORS

Sign of prompt bearing service by authorized distributors

1 Nothing Rolls Like A Ball. It is nature's favorite, strongest form. Having no ends, it rolls freely in any direction.

2 Under heavy compression it deforms slightly and then resumes its original form. Made of the toughest, most resilient steel known to man, the New Departure steel ball is of uniform structure throughout.

3 Its inherent resistance to load is greatly increased by curved raceways which, under load, are nearly filled by an arc of the ball. "Point contact" talk is the bunk. Actually, its contact is an ellipse, like this:

4 This is how a ball resists thrust (axial loads) as well as radial loads — like a bicycle on a banked track.

5 Put two rows of balls together, and you can support thrust and radial loads from any direction. They may be in one single bearing or in two separate bearings.

6 Unlike other types of rolling elements, the ball need not be forced to travel in the proper direction. Function of separator is merely to keep balls spaced. Contact is at poles (point of slowest rotation—least friction.)

7 Only ball bearings may be self-sealed with integral closures of felt and metal. In average conditions New Departures are lubricated for life. Other type bearings cannot maintain precise "inter-fitment" needed to maintain efficient sealing.

8 Newest new departure *by* New Departure: Lubrication in new sealed bearings may be revitalized by injecting with hollow needle on pressure oiler—without removal of seals or need for nipples, grease passages, plugs.

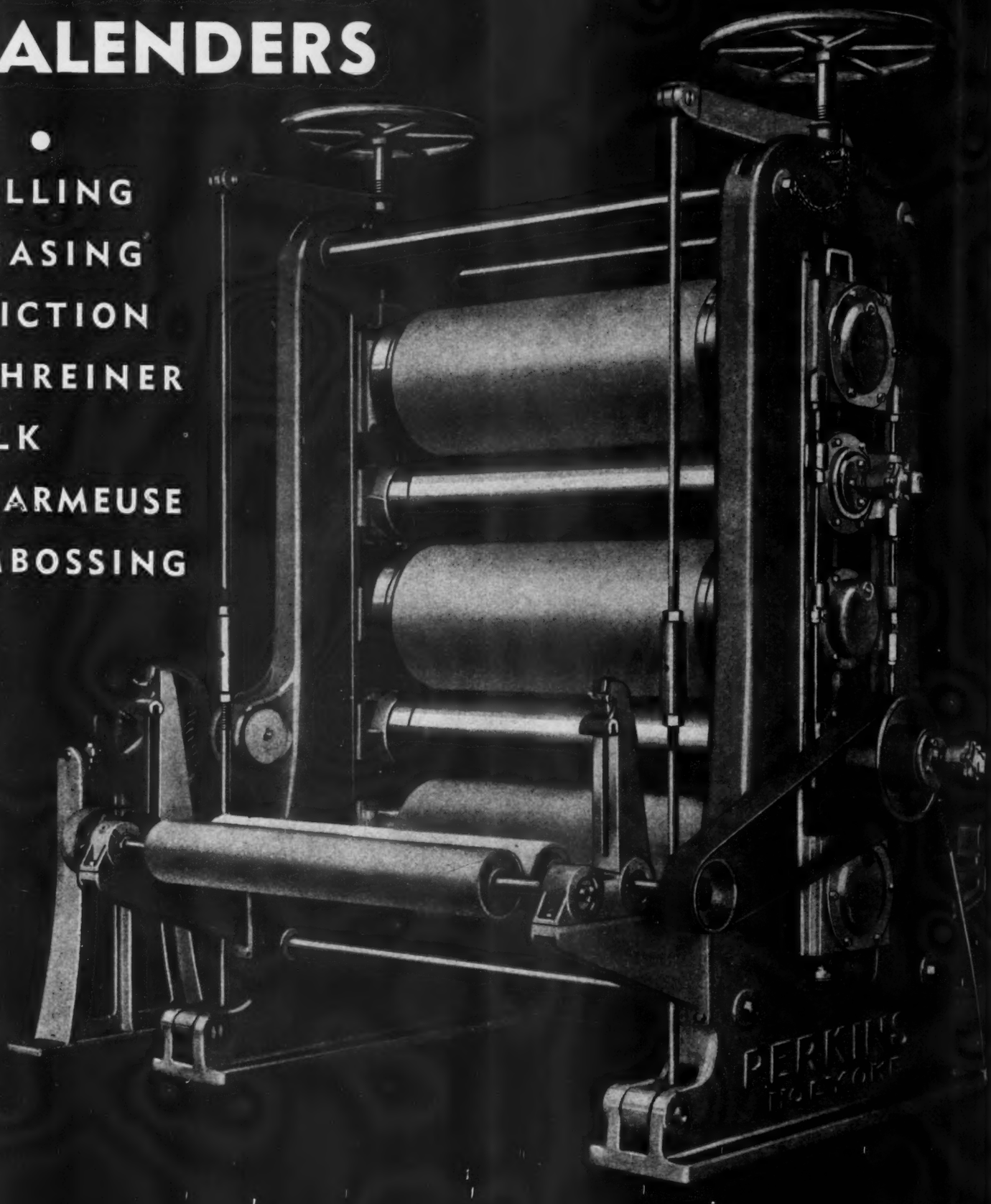
nothing rolls like a ball

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • Division of General Motors • BRISTOL, CONN. • Branches in DETROIT • CHICAGO • and Other Principal Cities

PERKINS CALENDERS

- ROLLING
- CHASING
- FRICTION
- SCHREINER
- SILK
- CHARMEUSE
- EMBOSSING



B. F. PERKINS & SON, Inc.

HOLYOKE • MASS.

War-time Shortage Produced a BETTER RUBBER for TEXROPE V-BELTS

LACK of natural rubber forced the development of synthetic rubbers. And out of this intensive war-time research came a rubber compound that has made today's TEXROPE "Super-7" V-Belts the BEST in 20 years of V-Belt experience!

This war-proved Buna-S develops 75% less internal heat. It's tough, durable, resilient. It cushions, insulates and protects the load-carrying cord structure — adds to the service life of the belt.

HEADQUARTERS FOR V-BELT DRIVES

Your nearest Allis-Chalmers office or dealer offers a COMPLETE line of V-Belt equipment — not only the famous Super-7 belts, but also TEXSTEEL, TEXDRIVE and "MAGIC-GRIP" sheaves, VARI-PITCH sheaves, SPEED CHANGERS, engineering service. Supply *all* your needs from one reliable source. ALLIS-CHALMERS, MILWAUKEE 1, WISCONSIN.

A 2086

5 Super-7 V-Belts ... TO MEET EVERY NEED

Heat-Resisting Super-7
Stands temperatures up to 180°. The TEXROPE V-Belt for most drives.

Oil-Resisting Super-7
Neoprene cover protects core against moderately oily or greasy conditions.

Oil-Proof Super-7
Made of Neoprene throughout. Use it when the belt must swim in oil.

Static-Resisting Super-7
Recommended where explosion hazard exists. Static-conducting element throughout cover won't wear off.

Super-7 Steel
Twin steel cables, to pull extremely heavy loads with minimum stretch.

GET THEM — through your Allis-Chalmers district office or dealer.

TEXROPE Super-7 V-Belts result from the co-operative research of two great companies—Allis-Chalmers and B. F. Goodrich—and are sold exclusively by A-C.

ALLIS-CHALMERS

One of the Big 3 in Electric Power Equipment — Biggest of All in Range of Industrial Products

TEXROPE V-BELT DRIVES

KOHORN

Complete Plants for Filament Rayon Yarn and Rayon Staple Fiber

We have now under construction plants to produce 40,000,000 pounds of rayon yarn and rayon staple annually.

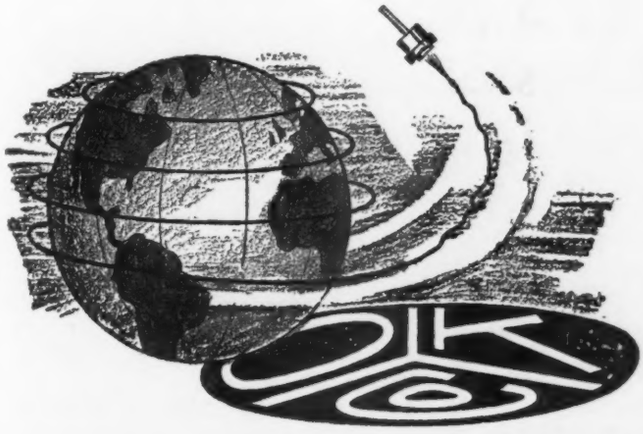
Plants constructed by us since the war have reached actual pro-

duction stage within eighteen months from the date ground was broken.

Our own patented machines and processes assure our clients of a superior product and low manufacturing costs.

We furnish complete service and competent staff of engineers and chemists to operate these plants.

We have installed more rayon and staple fiber plants than any rayon producer or any other organization in the world.

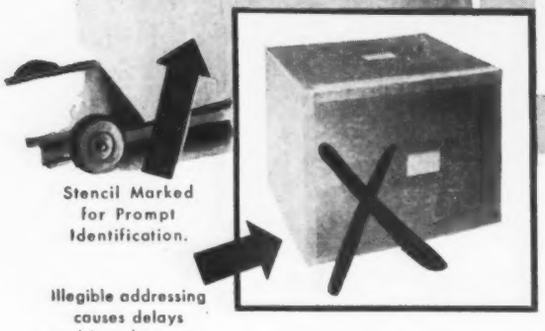


OSCAR KOHORN
& Co., Ltd.

Executive Offices

501 Fifth Avenue
NEW YORK 17, N. Y.

PREFERRED



Stencil Marked for Prompt Identification.

Illegible addressing causes delays and lost shipments.

Do your shipments receive preferred handling in transit to your customers? Stencil addressed shipments get preferred handling...

Stenciled Shipments Roll Faster!

Why? Common carriers recommend stencil addressing. Stencil addressed shipments are clear–easily read–permanently marked–and eliminate illegibility–labels coming off–speeds delivery–*due to prompt identification in transit.*

Stencil addressed shipments keep your packages out of the carriers' Lost Shipment Warehouse.

DIAGRAPH-BRADLEY

STENCIL MACHINE CORPORATION

ST. LOUIS 8, MISSOURI

DISTRIBUTORS IN PRINCIPAL CITIES–SEE CLASSIFIED SECTION–TELEPHONE DIRECTORY–STENCIL CUTTING MACHINES

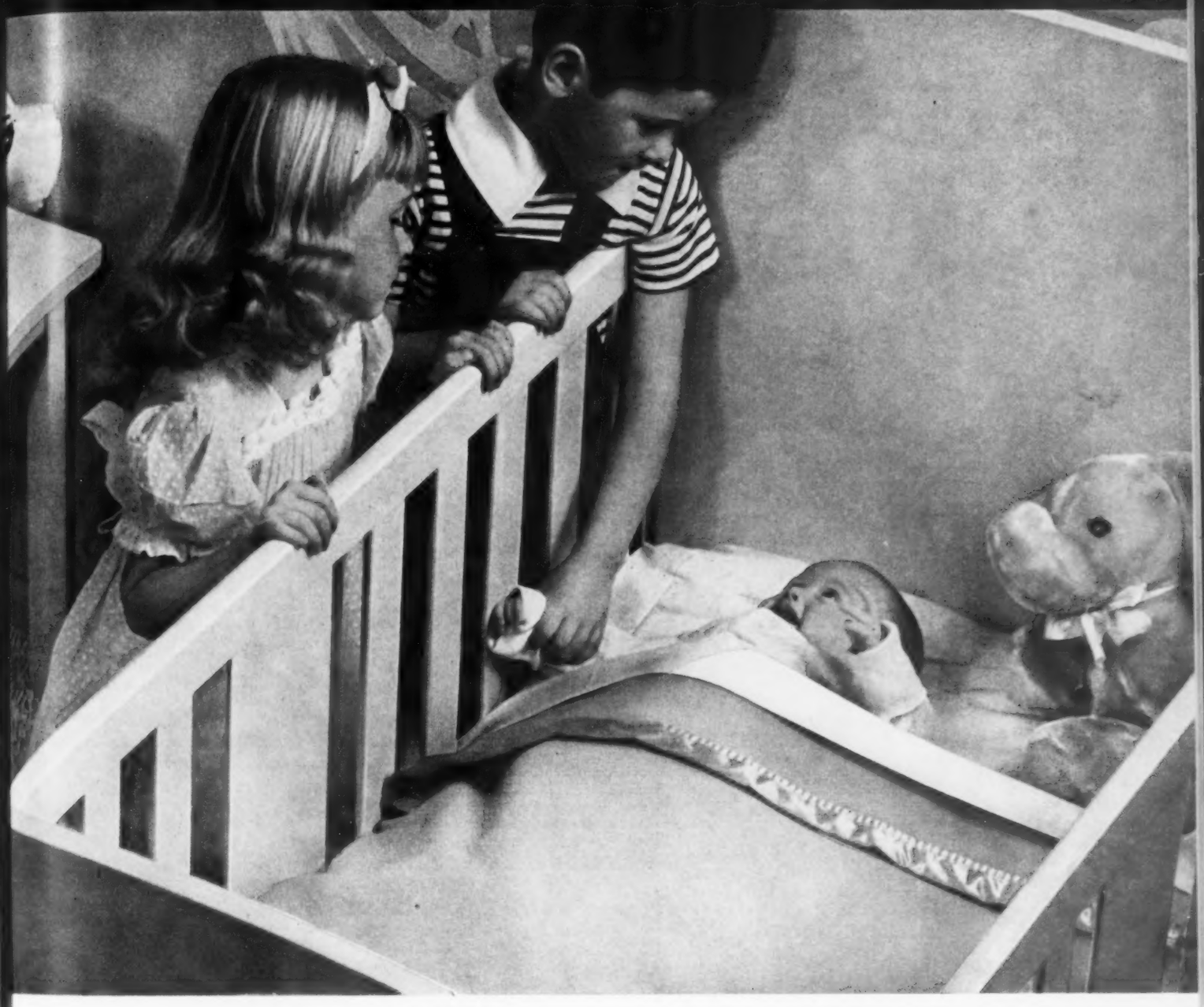
D.B.

REG U. S PAT. OFF.

THE WORLD'S OLDEST AND LARGEST MANUFACTURER OF STENCIL CUTTING MACHINES

Complete Shipping Room Supplies

SANDOZ PRESENTS *the color achievement of the month*



Baby Blue BY NORTH STAR

Fashions never change in baby colors, but the *quality* of the colors is ever-improving. North Star's "Iris"—a fine, snuggle-soft baby blanket—benefits from recent technical advancements in dyes and chemicals that provide new efficiency in dyeing, new trueness and fastness of color.

Firms like North Star Woolen Mill Company and its subsidiary, The Lima Woolen Mills Company, depend upon Sandoz among their suppliers for the finest quality in colors. They have learned from experience that Sandoz' policy of *thinking ahead with textiles* is profitable to *them* in terms of economical handling, sales appeal, customer satisfaction.

For example: Sandoz' Fast-to-Light Milling Colors, such as Brilliant Alizarine Milling Blue BL (Pat.) or its range of Metomega Chrome Colors to which has just been added Metomega Chrome Green BLL (Pat. applied for), exceptionally fast and level dyeing.

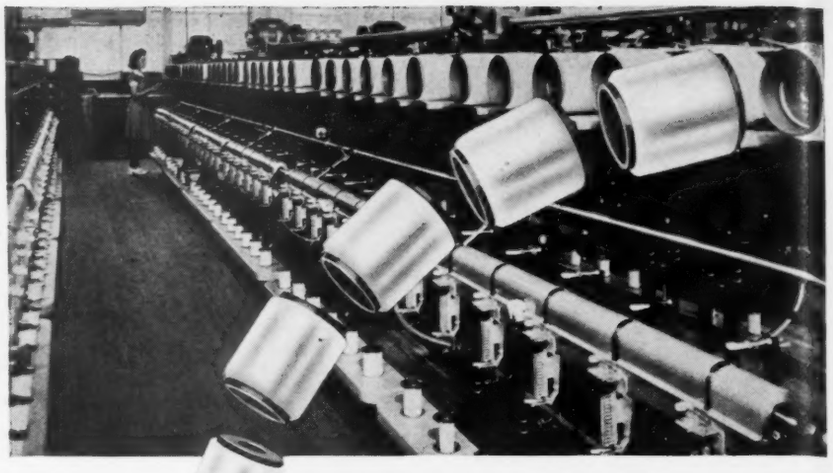
For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements. Sandoz application laboratories are located in New York, Boston, Philadelphia, Los Angeles, Charlotte, Toronto, where stocks in wide range are carried. Other branches in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

SANDOZ *thinks ahead with textiles*

S SANDOZ

Cone Nylon From Sizing Tubes Without Re-draw



This photo used through courtesy of Synthetic Yarns, Inc., Lowell, Mass.

Here is the way Nylon is handled by the dozens of throwsters who have adopted the Universal System of Sizing and Coning.

LEESONA

Reg. U. S. Pat. Off.

On the No. 250 Sizing Machine, the yarn is wound onto 6″-diameter tubes under light and uniform tension.

A heart-shaped cam connected to all spindles produces a "scatter-wind" which distributes the yarn evenly over the length of the tube, with long and short traverses alternating. The large tube diameter makes it possible to have a thin layer of yarn for rapid and uniform conditioning. The tapered end and light tension contribute to free delivery on the coning machine.

On the No. 50 Coning Machine, the yarn is wound directly from the sizing tubes onto pineapple cones, also under light and uniform tension.

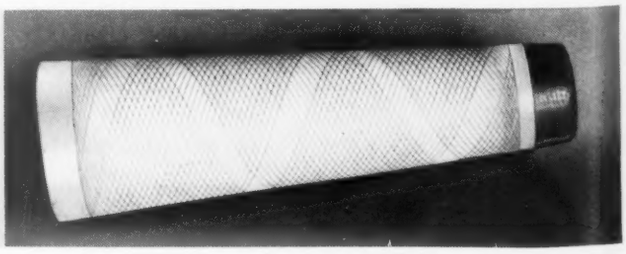
The new Roller Bail distributes pressure over the entire length of the cone to obtain ideal density from 45 to 50. Positive gear gain gives uniform open-wind spacing of yarn coils. The Universal Pineapple Cone is considered the ideal shape for free delivery to knitting machines.

On both machines, tension is kept at the desirable minimum by reducing the number of contact points and turns and by eliminating vibration and quick starts.

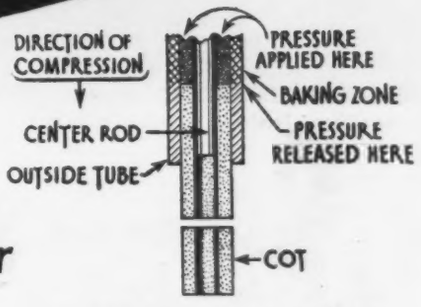
Universal Winding Company at Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal or Hamilton.

23.6.10

MORE THAN 90% OF ALL SYNTHETIC FILAMENT YARN ON CONES IS PRECISE-WOUND ON THE FLEXIBLE 50



SEAMLESS EXTRUDED CORK COTS



CROSS SECTION DRAWING OF ARMSTRONG'S EXTRUSION PROCESS

stronger yarn, longer wear

MADE by the exclusive Armstrong extrusion process, Armstrong's Cork Cots have no seams, no structural weaknesses to cause premature breakdown. Each cot is uniform in density from inside to outside, from end to end. As a result, each compresses evenly, spins stronger yarn, lasts longer, helps reduce end breakage.

Besides this superior seamless construction, Armstrong's Cork Cots offer other important production advantages. Their high coefficient of friction gives you uniform drafting with a minimum of slippage. They draft out bulky rovings, reduce end breakage. They won't eyebrow. They carry waste well back onto the clearer boards where it belongs.

Since these cots are also extraordinarily resilient, they "come back" quickly after grooving by top roll laps or hard ends. And because they resist penetration by liquids, they are not affected by oils or dyes, won't "sweat" in hot, humid weather.

In addition, these long-lasting cots are low in first cost. And they can be rebuffed, made like new, three or four times . . . for a total of four to five full-length service lives. Cost of each rebuffing is as little as one-half cent per roll.

Get all the facts on why more mills are using Armstrong's Cork Cots than any other roll covering. Ask your Armstrong representative, or write today for samples, prices, and complete information to Armstrong Cork Co., Textile Products Dept., 8308 Arch St., Lancaster, Pa.

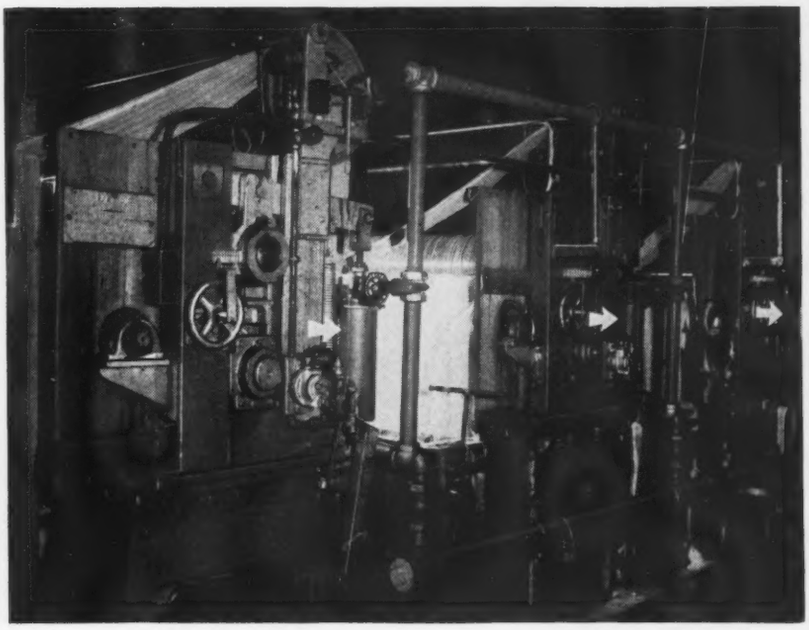
BETTER RUNNING WORK

— MORE POUNDAGE

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

THE MOTOR PUMP HAS THAT EXTRA- MARGIN OF RELIABILITY



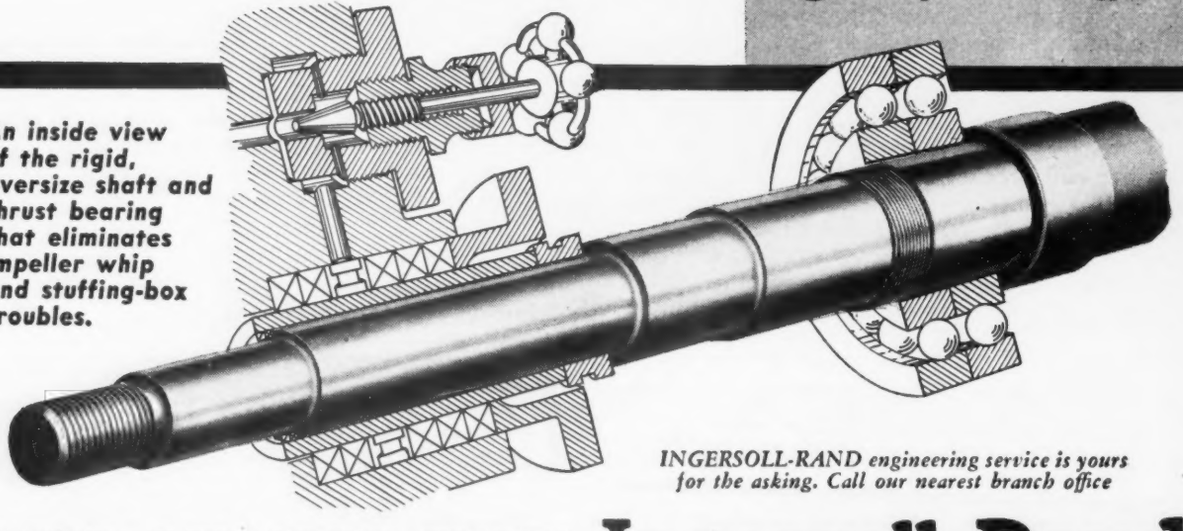
Photo—Courtesy Riggs & Lombard

Continuous Washer

Here is a pump built for heavy-duty work where minimum attention and continuous service are "house rules."

CONSIDER THESE MOTORPUMP FEATURES:

1. Single, oversize shaft for both motor and pump designed for a maximum deflection of only .001" at the end. This prevents impeller whip and reduces stuffing-box troubles to the minimum.
2. Oversize bearings have more than twice the radial and thrust capacities of standard motor bearings.
3. Simplicity – there is only one moving part – the rotor.
4. Most advanced metallurgy known to hydraulic engineers.
5. 80 years of pump building experience are built into the Motorpump.
6. Sizes ¼ to 50 hp.—heads to 600 ft.—capacities to 1800 gpm.



An inside view of the rigid, oversize shaft and thrust bearing that eliminates impeller whip and stuffing-box troubles.

INGERSOLL-RAND engineering service is yours for the asking. Call our nearest branch office

COMPRESSORS • AIR TOOLS • ROCK DRILLS • TURBO BLOWERS
CONDENSERS • CENTRIFUGAL PUMPS • OIL AND GAS ENGINES

10-871

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

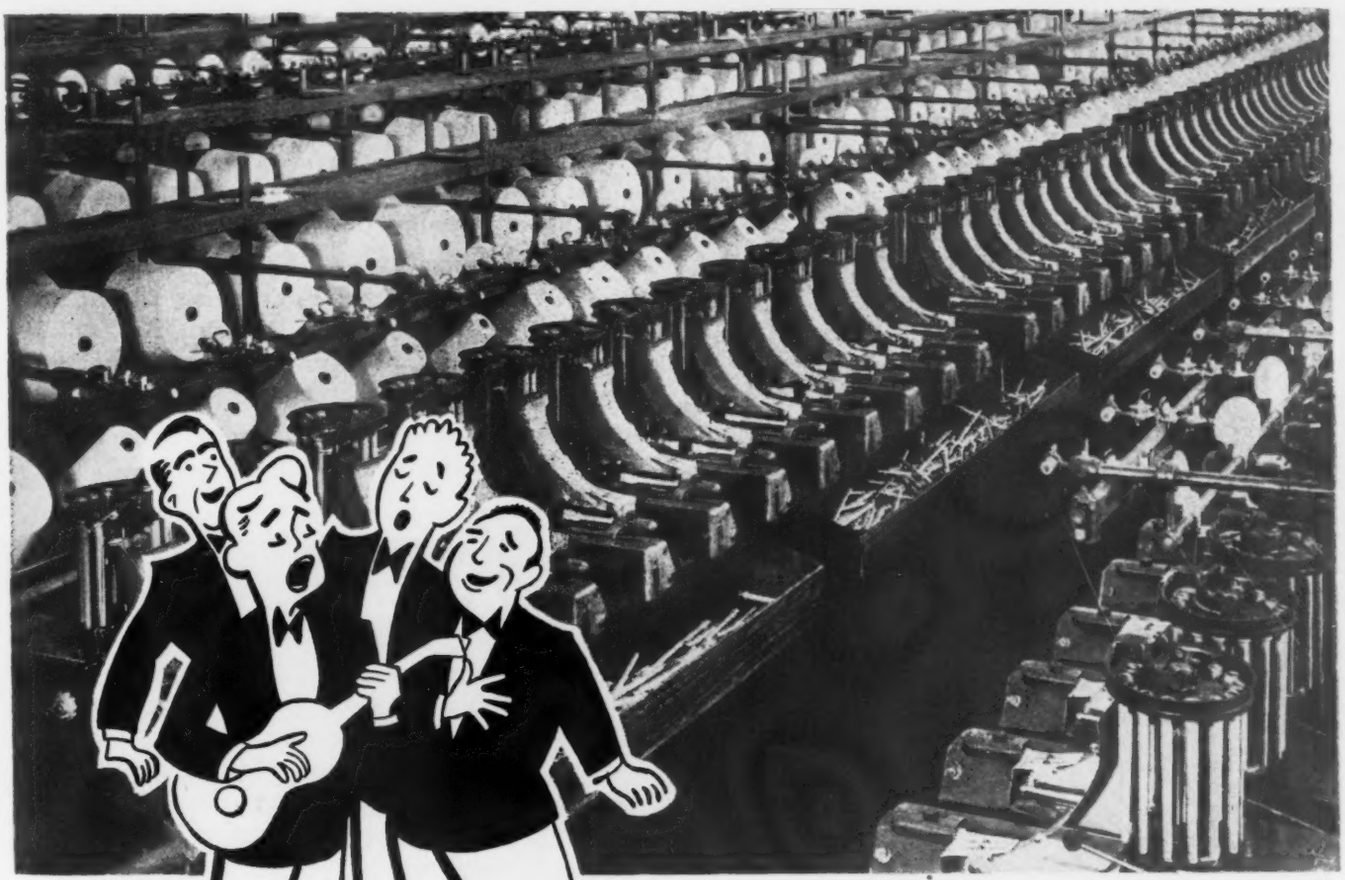
A BENEFIT PERFORMANCE .... *for Your Benefit!*

Based on the performance of Whitin-Schweiter Automatic Filling Bobbin Winders in hundreds of mills, under all conditions, we are convinced that an installation of these remarkable winders could definitely be to your benefit!

Their speed (3500 to 5000 RPM), their versatility (rewinds cotton, wool, worsted, rayon, plastics, etc.), their adaptability (winds on all types and sizes of bobbins up to $10\frac{1}{8}$") and general all-around operation has built up for them an enviable reputation among mill men. Repeat installations in mill after mill is definite proof of their acceptance.

Why shouldn't you also benefit by their performance?

Write for additional information or descriptive literature.



Whitin-Schweiter Winder installation at Paul Whitin Manufacturing Company, Northbridge, Mass.

Whitin

MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. ATLANTA, GA.

AMERICAN MONORAIL

Automatic Monitor Cleaner

LOWER COSTS *with* MONITOR CLEANERS

A high velocity fan unit prevents accumulation of lint by traveling around on a loop of track suspended with the monitor.

To eliminate trouble and expense of cleaning the monitor in mills of this particular construction, an automatic traveling fan unit replaces broom, mop and air hose.

At regular intervals, a blast of air is diffused in all directions, preventing accumulation of lint on structural members within the monitor. The cleaning interval is determined by conditions of mill-operation and unit can be adjusted accordingly.

American MonoRail Monitor Cleaner consists of a standard ¼ h.p. MonoTractor for driving unit around loop of track suspended within the structure. Blast of air is obtained from a propeller type fan with special conical diffuser mounted in steel frame.

For increased production and lower cleaning costs, talk to your American MonoRail Engineer.

Advantages—

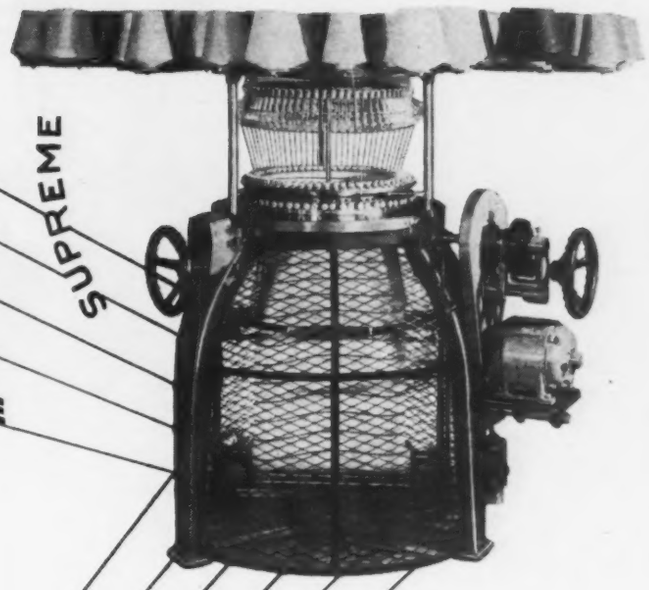
1. Prevents accumulation of lint in the monitor.
2. Eliminates cost of cleaning with broom or air hose.
3. Improves quality of yarn processed beneath monitor.
4. Eliminates danger of accident with hand cleaning.
5. Tends to distribute humidity evenly over work below.
6. Helps ventilation during warm months.
7. Prevents dead warm air pocket in cold months.
8. Assures full production during cleaning.

THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE — CLEVELAND 7, OHIO

JERSEY CIRCULAR MACHINES

SUPREME



SHORTEST DISTANCE

The shortest distance to greater production, lower operating costs, and excellent quality jersey fabric . . . is through the Supreme M-J Model Knitting Machine.

The result of more than 30 years of experience, the M-J Model is the first in a series of high-production machines that has already made every popular type of jersey garment.

The high-speed M-J is constructed in sizes 6" to 30" (20" - 64 feed illustrated). Commercial production averages 100 yards an hour.

Discover through the new illustrated Supreme catalog, the potential use of the M-J Model in your organization. Better still, see the M-J Model in operation at our factory or in the showrooms of Supreme distributors.

SUPREME KM Co

SUPREME

KNITTING MACHINE CO., INC.

105 JOHNSON AVE., BROOKLYN 6, N.Y., U.S.A.

...and C & K is investing in new equipment, too!

Within the limits of availability in equipment and materials, C & K is taking the longest strides possible toward the completion of a two-million-dollar program to extend the efficiency, capacity and time-economy of the Loom Works' operations. Here are some of the steps being taken:

New Mechanized Foundry: Comprises newest ideas and equipment.

New Machine Shop: To handle cast iron on mass production basis. New machinery embodying latest machining practices is being installed. Arrangements of machines and flow of materials planned to effect the greatest economy.

New Research Facilities: Various kinds of new equipment are being added to enlarge the scope of our Research and Development work.

New Dry Kilns: For special treating of the different kinds of wood used in C & K Looms.

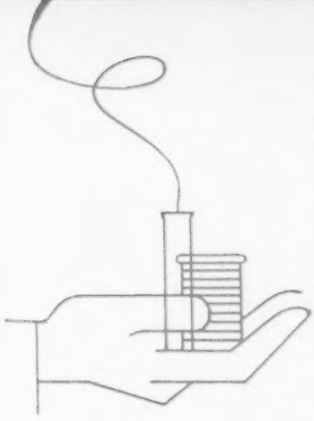
Additional Assembly Facilities: For large and special looms.

And throughout all other departments of the Loom Works, there is a co-ordinated program of shop rebuilding and modernization, systematic replacement of production machines (on the same basis that C & K has long advocated for weave rooms), new and more departmental layouts, new painting and lighting. And for all this many-sided enterprise, the objectives are three: Improved loom-design . . . more efficient loom-manufacture . . . *quicker loom-deliveries.*

Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co.
Pawtucket, R. I.

between Today's Knowledge...
and Tomorrow's Looms



Now you can tap new markets, make more sales with fabrics that are both beautiful and imperishable. Now you can achieve greater profits and cut production steps with Firestone's amazing new textile filament—*Velon*.

***Velon* makes smart colors practical.** The non-porous threads actually resist soil, grease and stains. A damp cloth wipes *Velon* clean as new. And *Velon* is colorfast —can't fade, run or wash out—because the color is inherent in the monofilament.

***Velon* makes interesting textures wear-proof.** This man-made filament is homogeneous. Each fibre is a single thread of giant strength, so amazingly resistant to scuffing, snagging and abrasion.

***Velon* is versatile.** Ideally suitable for seat upholstery—home, outdoor, commercial, transportation, for shoes, bags, luggage, hats, belts, awnings, lampshades, draperies.

***Velon* is adaptable** to your manufacturing methods without major production changes. Firestone engineers will be glad to consult with yours. Limited quantities of *Velon* are available now for sample weaving.

FREE! Write Firestone, Akron, for your copy of full-color Velon booklet and samples of yarn.

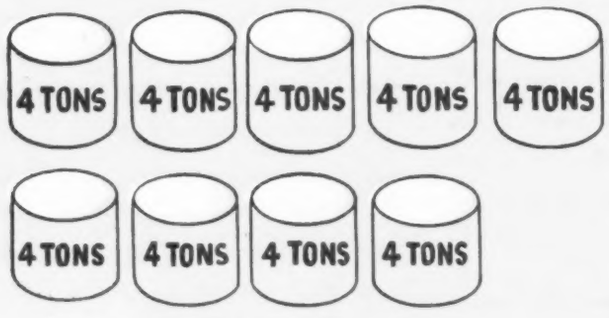
***Trade Mark**

BEST TODAY—STILL BETTER TOMORROW

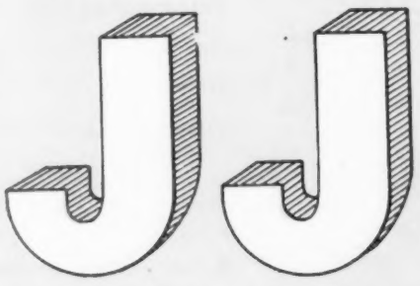
LISTEN TO THE VOICE OF FIRESTONE MONDAY EVENINGS OVER NBC

DO YOU HAVE ALL THE FACTS ON CONTINUOUS BLEACHING?

Do you know the savings possible with a Butterworth Continuous Bleaching Range—savings in equipment, floor space, steam, chemicals and labor?

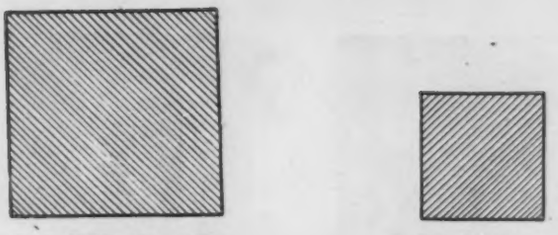


NINE 4-TON KIERS



TWO 3,000-Lb. "J"-BOXES

EQUIPMENT: In kier bleaching, it takes nine 4-ton kiers to achieve a daily production of 36 tons of 5.0 yard goods. In a Butterworth Continuous Bleaching Range, two "J"-boxes will do the same work.



3,000 Sq. Ft. **1,350 Sq. Ft.**

FLOOR SPACE: A Butterworth Continuous Bleaching Range requiring 1,350 square feet of floor space does the work of nine 4-ton kiers requiring 3,000 square feet of floor space—a 55 per cent saving.

288,000 Lbs. **70,560 Lbs.**

STEAM: To bleach 1,000 pounds of cloth in kiers requires 4,000 lbs. of steam. To bleach 1,000 lbs. of cloth in a Butterworth Continuous Bleaching Range requires only 980 lbs. of steam.

UP TO 40% LESS

CHEMICALS AND LABOR: Savings up to 40 per cent in the cost of chemicals and labor are achieved in Butterworth Continuous Bleaching Ranges. In kier boiling, if the bleach is not satisfactory there is a time loss of 18 to 24 hours. In continuous bleaching, there are inspection windows in the "J"-boxes to permit checking at any stage and each yard of goods is bleached in approximately two hours.

•

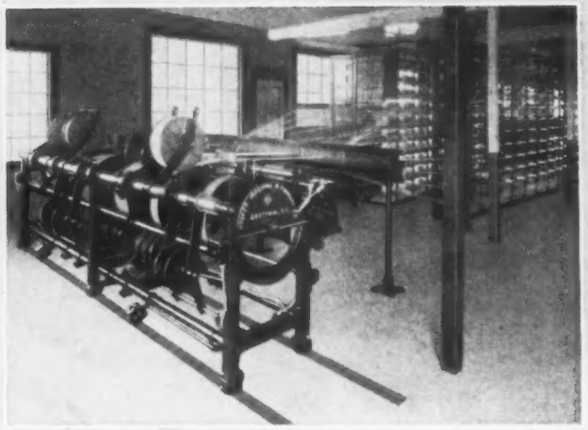
Butterworth equipment for Continuous Bleaching Ranges includes "J"-Boxes, Washers, Caustic and Peroxide Saturators, and Heater Tubes. The new and improved "J"-Boxes are made of heavy gauge stainless steel which gives added strength . . . prevents retarding formerly caused by bulging and buckling. The latest type horizontal 6-roll washer is equal to about four conventional boxes, and uses air pressure for greater control of the rolls.

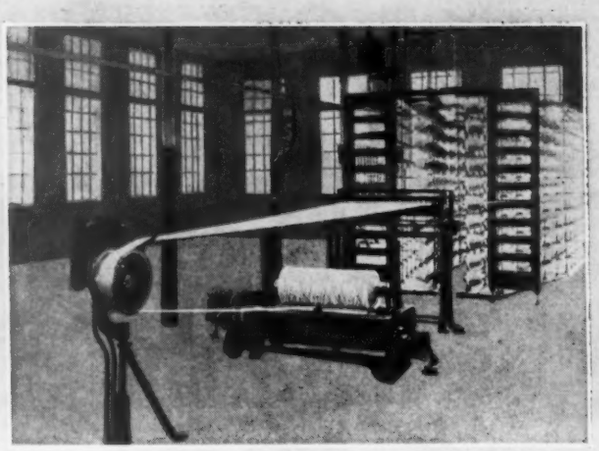
The economies afforded by Butterworth Continuous Bleaching Ranges (either DuPont or Becco Process) are the result of 126 years experience in the Wet End of Textile Finishing. These savings and this experience can be yours. Write us today.

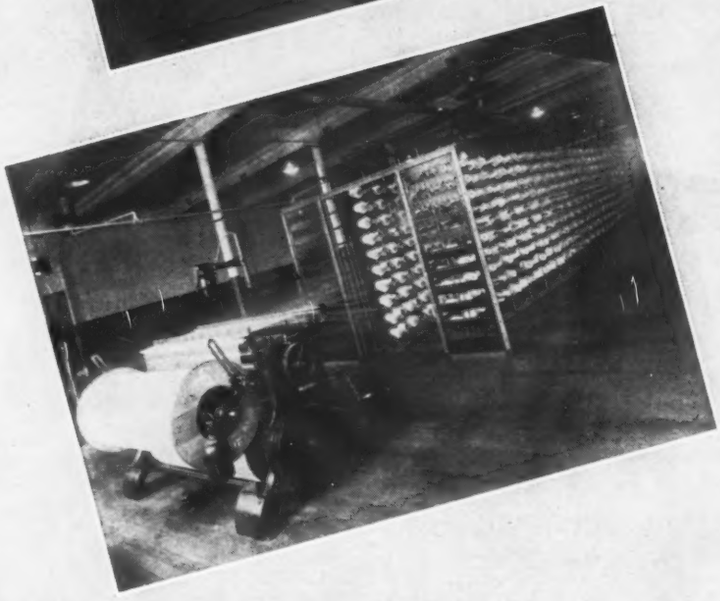
BUTTERWORTH

H. W. BUTTERWORTH & SONS COMPANY, Philadelphia 25, Pa.

TEXTILE FINISHING MACHINERY COMPANY DIVISION, Providence, R. I. • 1211 Johnston Bldg., Charlotte, N. C. • W. J. Westaway Co., Hamilton, Ont. • ARGENTINA: Storer & Cia., Chacabuco 443-49, Buenos Aires • BOLIVIA: Schneiter & Cia., Ltda., La Paz • BRAZIL: Oscar Bandler, Caixa Postal 3193, Sao Paulo • CHILE: Schneiter & Cia., Ltda., Casilla 2864, Santiago • COLOMBIA: C. E. Halaby & Co., Apartado 139, Medellin • ECUADOR: Richard O. Custer, S. A., Quito. MEXICO: I. Slobotzky, Avenida Uruguay 55, Mexico, D. F. • PERU: Custer & Thommen, Casilla 733, Lima • URUGUAY: Storer & Cia., Ltda., Calle Paysandu 1022, Montevideo • VENEZUELA: Herbert Zander & Co., Apartado Postal 1291, Caracas.







WORLD'S LARGEST

Designers & Builders

of

Complete Warp Preparatory Equipment

for

- Rayon
- Spun Rayon
- Acetate
- Cotton
- Nylon

COCKER

MACHINE and FOUNDRY

COMPANY

GASTONIA, NORTH CAROLINA

Obtain Maximum Light Fastness from Your Colors

Almost all substantive, or cationic, softeners change the shade of dyestuffs on fabrics and seriously reduce their fastness to sunlight. Not so with Ahcovels E and F however. They do NOT alter shades and do NOT affect the relative light fastness of any dyestuff.

Yet they both have these valuable additional properties:—

1. Give velvety soft finish.
2. Resistant to repeated washings and dry cleansings.
3. White paste products, producing non-greasy, odorless finish, which will not discolor or develop odor with heat, age or light.
4. Easy to apply; exceptionally economical to use.

AHCOVEL-E

— was originally developed for hard twisted fabrics, where good draping qualities are normally difficult to obtain — such as hard twist acetates and nylons. It flexibilizes the fibres.

*Trademark Reg. Patented

ARNOLD, HOFFMAN & CO., INC.

MANUFACTURING CHEMISTS

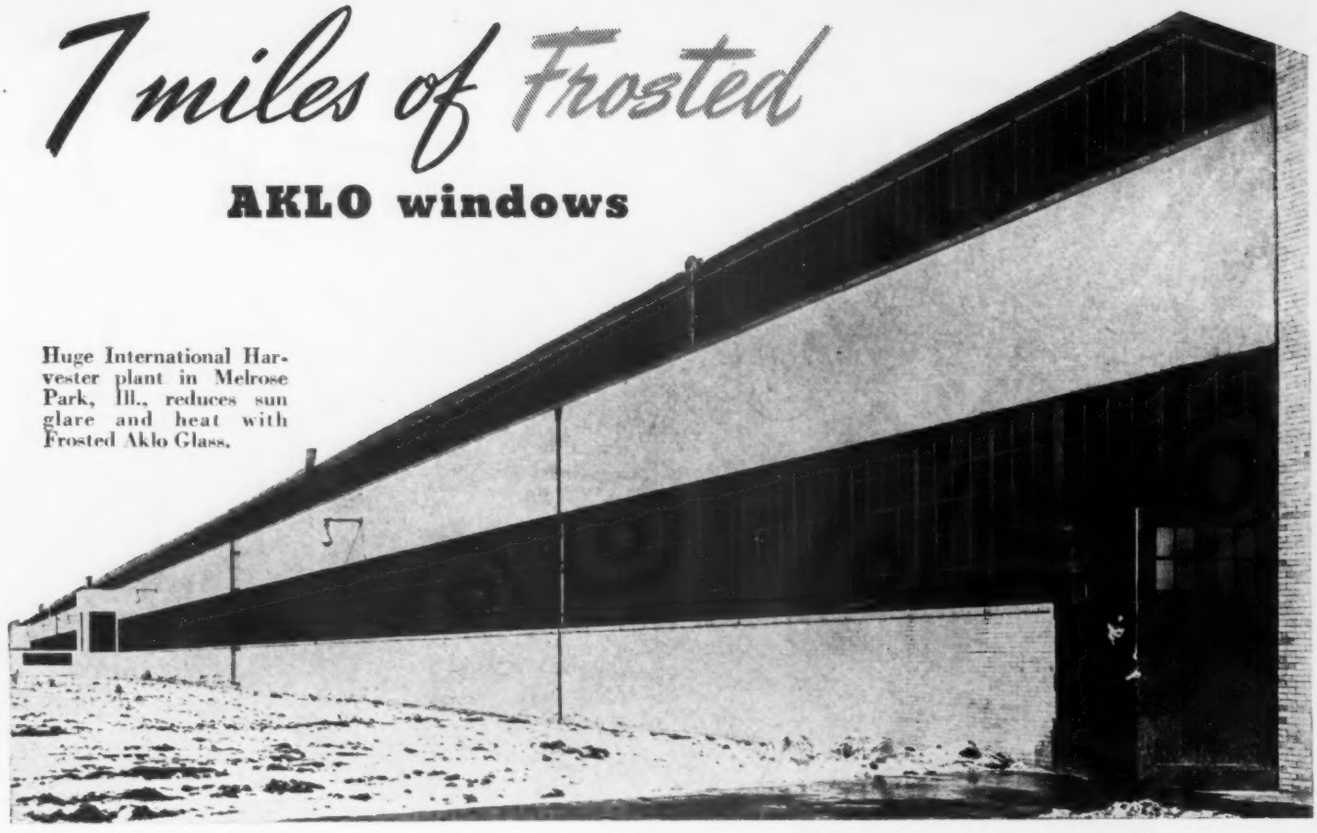
PROVIDENCE, RHODE ISLAND

ESTABLISHED 1815 • PLANTS AT DIGHTON, MASS. & CHARLOTTE, N. C.

NEW YORK BOSTON PHILADELPHIA CHARLOTTE

7 miles of Frosted

AKLO windows



Huge International Harvester plant in Melrose Park, Ill., reduces sun glare and heat with Frosted Aklo Glass.

Designed by Albert Kahn Associated Architects & Engineers, Inc.

150,000 panes provide even, glare-free distribution of sunlight through plant

GET THESE THREE ADVANTAGES OF *Frosted* AKLO

REDUCES GLARE—Eliminates eyestrain and employe fatigue.

RETARDS SUN HEAT—Keeps workers comfortable on their jobs.

RENDERS SAVINGS—Eliminates shades or painting of glass.

One of the largest plants in the country, this International Harvester factory in Chicago is also one of the best lighted. Its 7-mile wall-of-windows is glazed with Blue Ridge *Frosted* AKLO glass which cuts down solar heat and reduces sun glare.

This cool-appearing, blue-green glass directly increases workers' comfort and efficiency by keeping out the glare which produces eye-fatiguing, high intensity light spots. Since eyestrain increases spoilage and accidents, *Frosted* AKLO's value here is obvious.

By resisting solar heat, *Frosted* AKLO reduces the load on air conditioning equipment and eliminates window shades, blinds or painted windows.

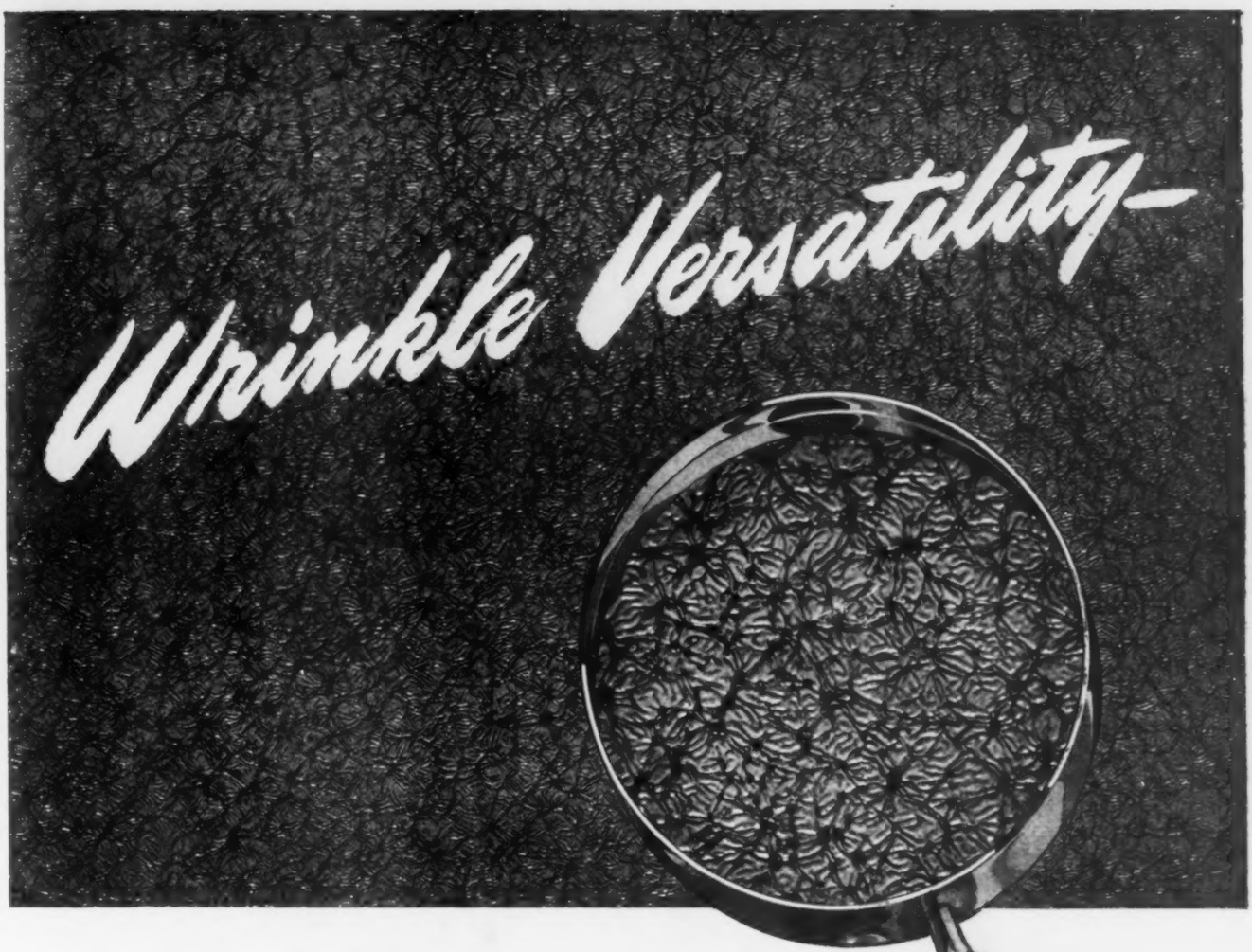
Made by the Blue Ridge Glass Corporation of Kingsport, Tenn., *Frosted* AKLO is sold by Libbey·Owens·Ford through leading glass distributors. Ask your distributor for a Radiometer demonstration of the sun heat and glare reducing characteristics of *Frosted* AKLO. Blue Ridge Sales Division, Libbey·Owens·Ford Glass Co., 9986 Nicholas Building, Toledo 3, Ohio.

L O F

BLUE RIDGE AKLO GLASS

Heat-Absorbing · Glare-Reducing · Figured and Wire Glass

BLUE RIDGE GLASS CORP. MANUFACTURERS OF QUALITY GLASS KINGSPORT, TENN.



means combinations of colors, too!

Wrinkle coatings are available in any colors you want—in primary colors, tints, pastels and *combination* effects for unusual eye appeal. Wrinkle versatility doesn't stop there. Users find, for example, that Wrinkle is used on *flexible* materials with the same success as on metal or similar surfaces.

Wrinkle is economical to use, requiring only one top coat. It covers imperfections in castings and weldments without extensive clean-up necessary with smooth finishes. Wrinkle protects while it enhances the beauty of coated surfaces. It doesn't chip or peel and is extremely durable even under adverse conditions.

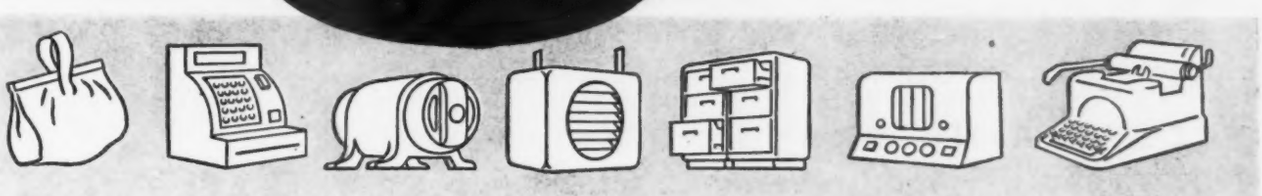
Approximately 200 leading paint and varnish plants which manufacture Wrinkle under our license can supply you with Wrinkle coatings in a variety of textures, patterns, and colors to suit your needs.

Write for "New Wrinkles in Finishing," a bi-monthly report on developments in the Wrinkle field.

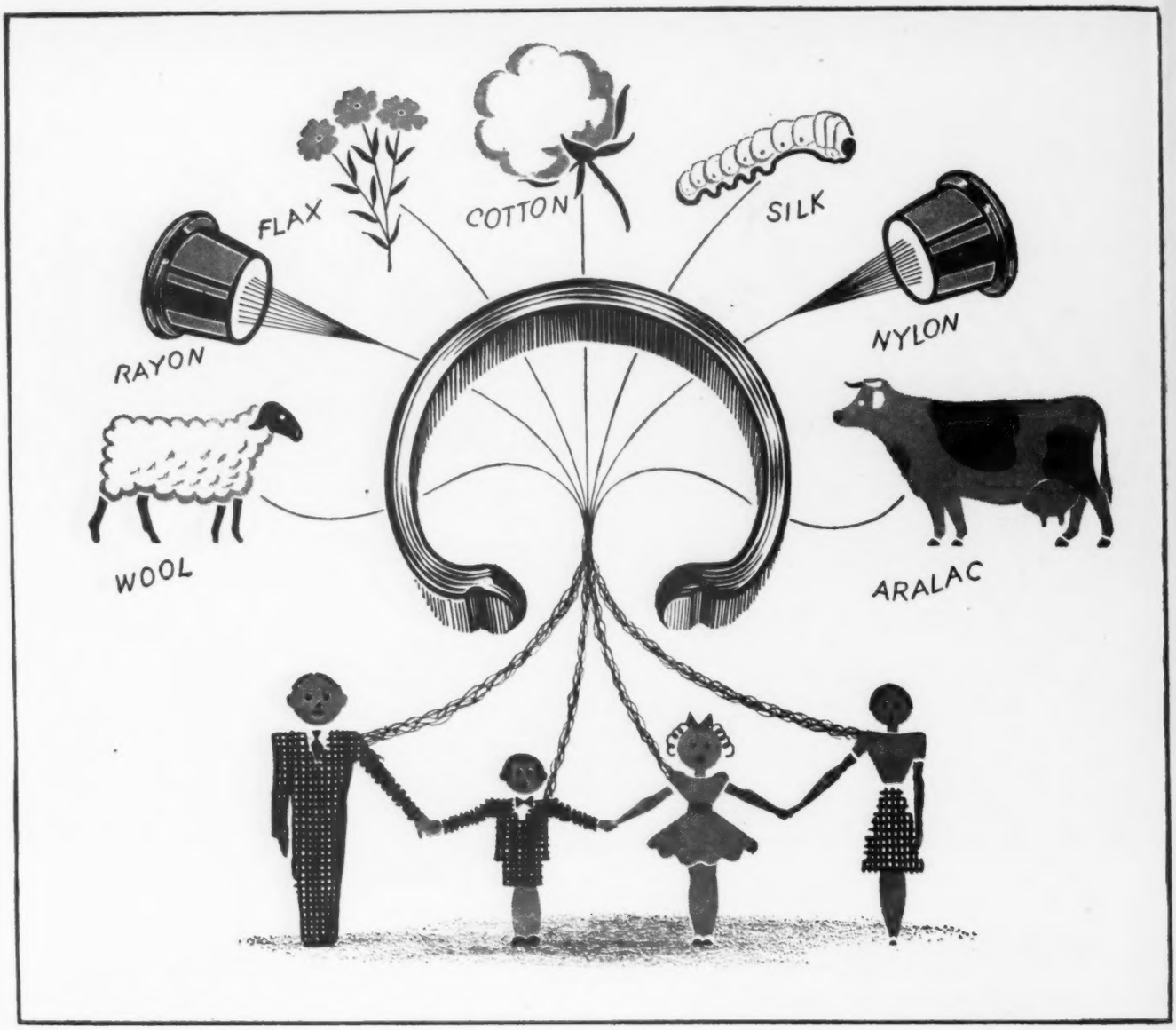
New Wrinkle, Inc.,

Wrinkle
REG. U. S. PAT. OFF.

Offices and Research Laboratories
1765 Springfield St., Dayton 3, Ohio



THE "STANDARD ANSWER" TO VARIED FINISHING NEEDS



Guiding every new Blend to a Better Fabric

WHATEVER blend is specified – and new ones are dreamed up almost daily – there are Victor Travelers that will make its spinning or twisting more trouble-free, more certain to result in top-quality yarn.

No book can supply the information you want on handling blends . . . things happen too fast. But there's help; plenty of help for you in the notes on every new blend the Victor Service Engineer has in his briefcase – and even more help "under his hat".

It's information you could assemble – if you had the time to cover the territory he travels. Since you haven't, why not talk to a Victor man, and bring your I.Q. on blend spinning and twisting up to the minute?

Make sure you are getting the most and the best from your frames, whether you are running blends, straight synthetics, or conventional fibers. Write, wire, or phone, and a Victor Service Engineer will call promptly.

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 0737

GASTONIA, N. C. . . . . 173 W. Franklin Ave. . . . . Tel. 247

USE PARAMUL 115

today's answer to better water repellent and stain resistant fabrics . . .

PARAMUL 115 IMPREGNATES THE FIBRES

BECAUSE OF ITS FINE PARTICLE SIZE—

EASILY AND ECONOMICALLY APPLIED—

AMERICAN CYANAMID & CHEMICAL CORPORATION

(A Unit of American Cyanamid Company)

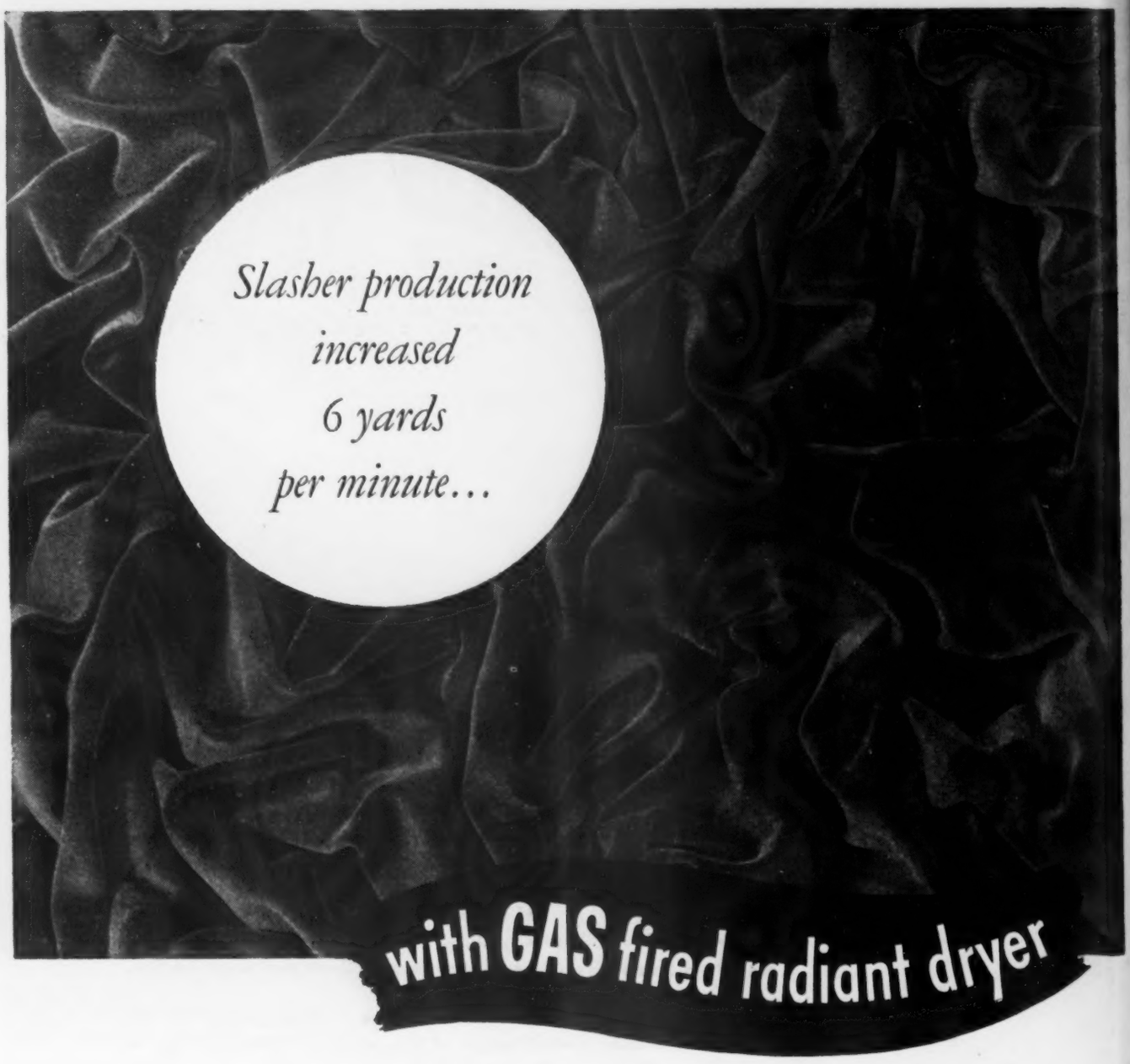
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Among Cyanamid Products for the Textile Industry Are . . .

Penetrants • Softeners • Finishes • Sizing Compounds • "DECERESOL" OT Wetting Agents

PARAMUL** 115 Water Repellent, and other Specialties and Heavy Chemicals.

*Reg. U. S. Pat. Off. **Trademark



For all textile operations requiring heat, GAS is unsurpassed as a production-line fuel. The superintendent of one of the largest South Carolina mills, discussing the installation of Gas-fired radiant dryers on cylinder-type slashers reported, **"Before installation of the burner the slasher speed was approximately 27 yards-per-minute . . . With the burner added, the speed was increased approximately 18%. Our present standard speed for this style is 33 yards-per-minute."**

This executive's experience with GAS is typical of the production increases in mills turning out every kind of fabric. Compared with other available heat sources GAS is the ideal heating medium for textile processing. GAS is flexible, clean and economical; modern Gas equipment is dependable while controls are simple and accurate. Your Gas Company can furnish details on applications of GAS in your production line.

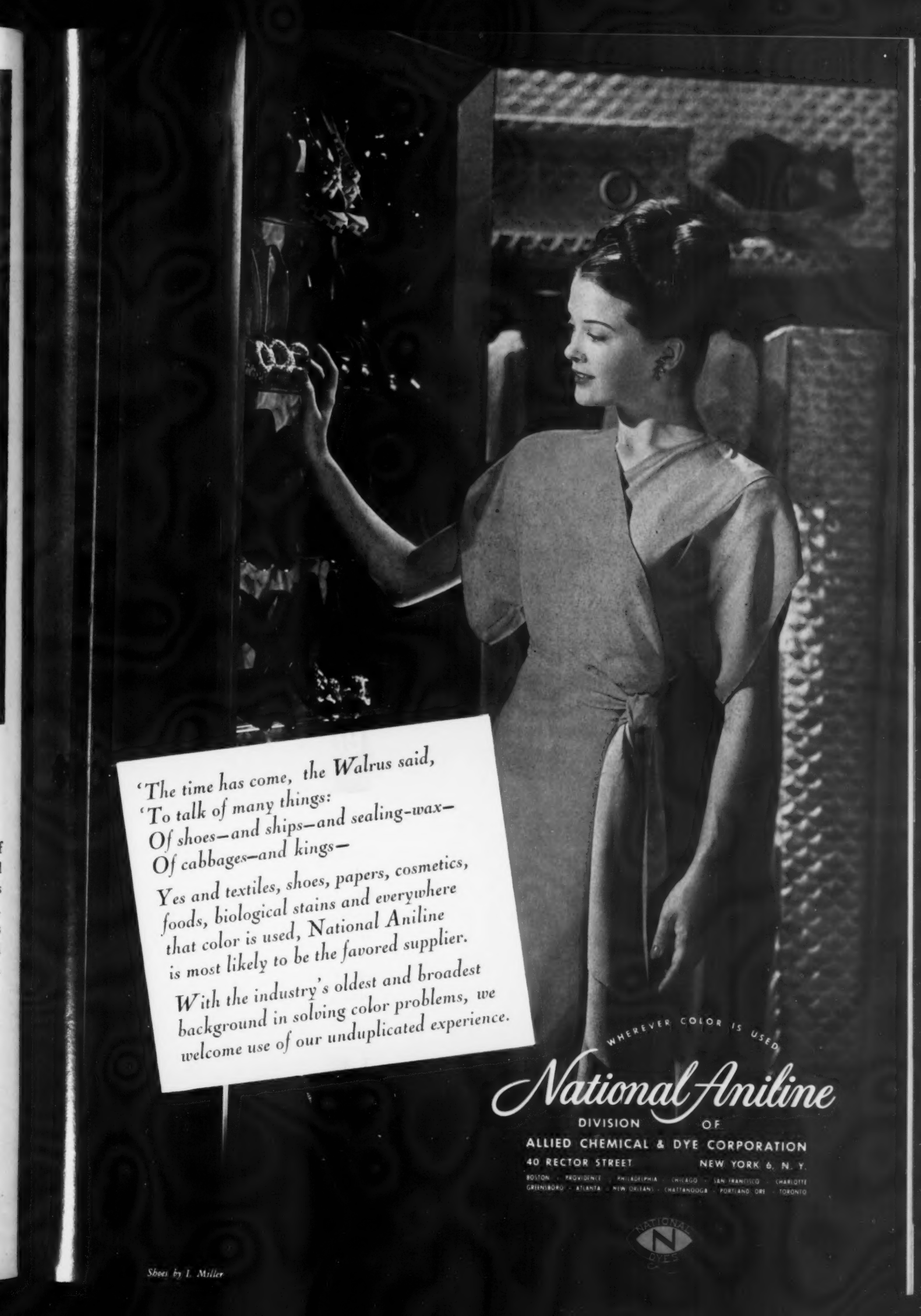
AMERICAN GAS ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK 17, N.Y.

MORE AND MORE...

THE TREND IS TO GAS

FOR ALL INDUSTRIAL HEATING


'The time has come, the Walrus said,
'To talk of many things:
Of shoes—and ships—and sealing-wax—
Of cabbages—and kings—
Yes and textiles, shoes, papers, cosmetics,
foods, biological stains and everywhere
that color is used, National Aniline
is most likely to be the favored supplier.
With the industry's oldest and broadest
background in solving color problems, we
welcome use of our unduplicated experience.
WHEREVER COLOR IS USED
National Aniline
DIVISION OF
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET NEW YORK 6, N. Y.
BOSTON · PROVIDENCE · PHILADELPHIA · CHICAGO · SAN FRANCISCO · CHARLOTTE
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Executive and General Offices

271 MADISON AVENUE
NEW YORK, N.Y.

Telephone: AShland 4-8650

FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

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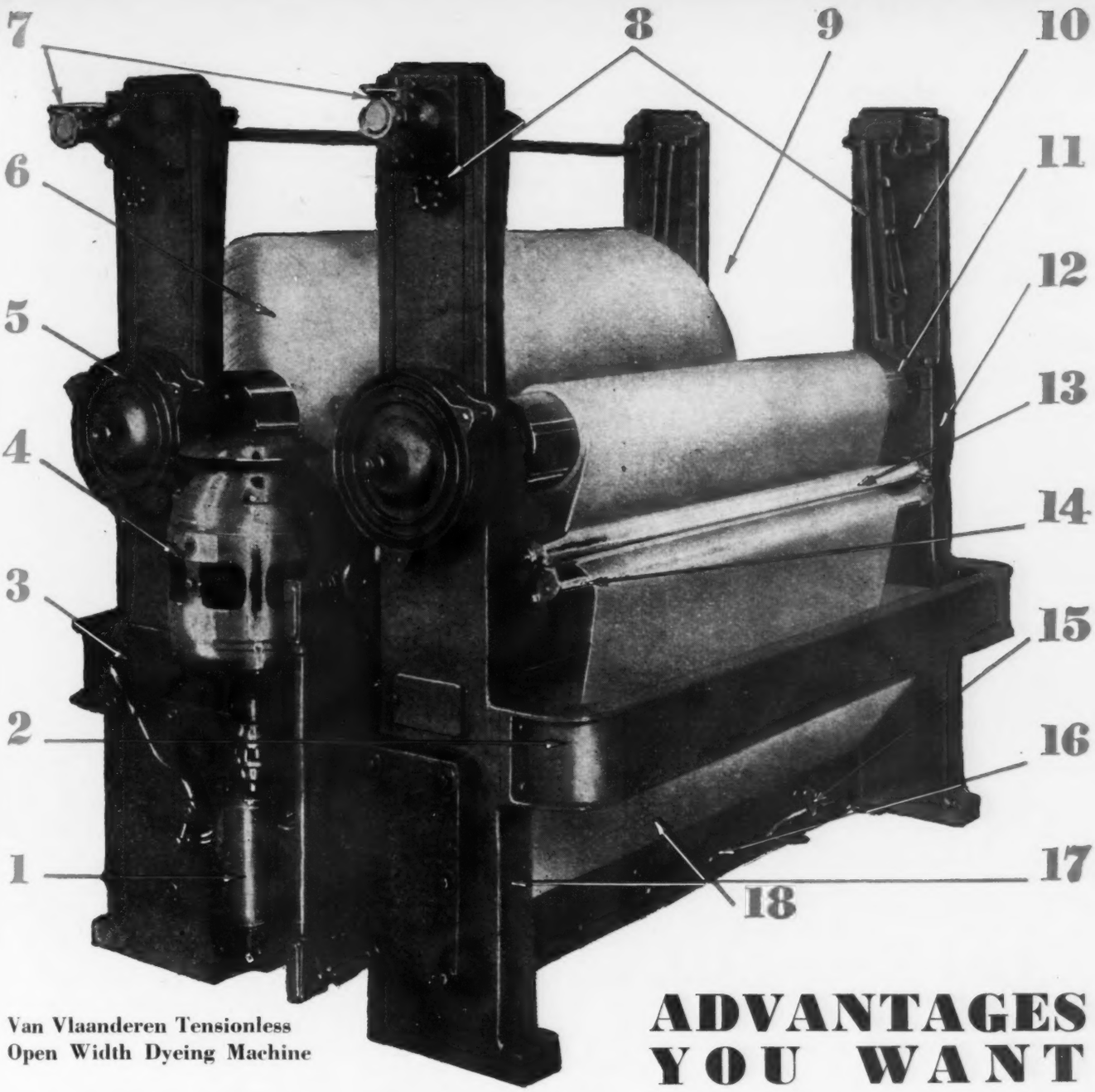
ESTABLISHED 1840



Van Vlaanderen Tensionless
Open Width Dyeing Machine

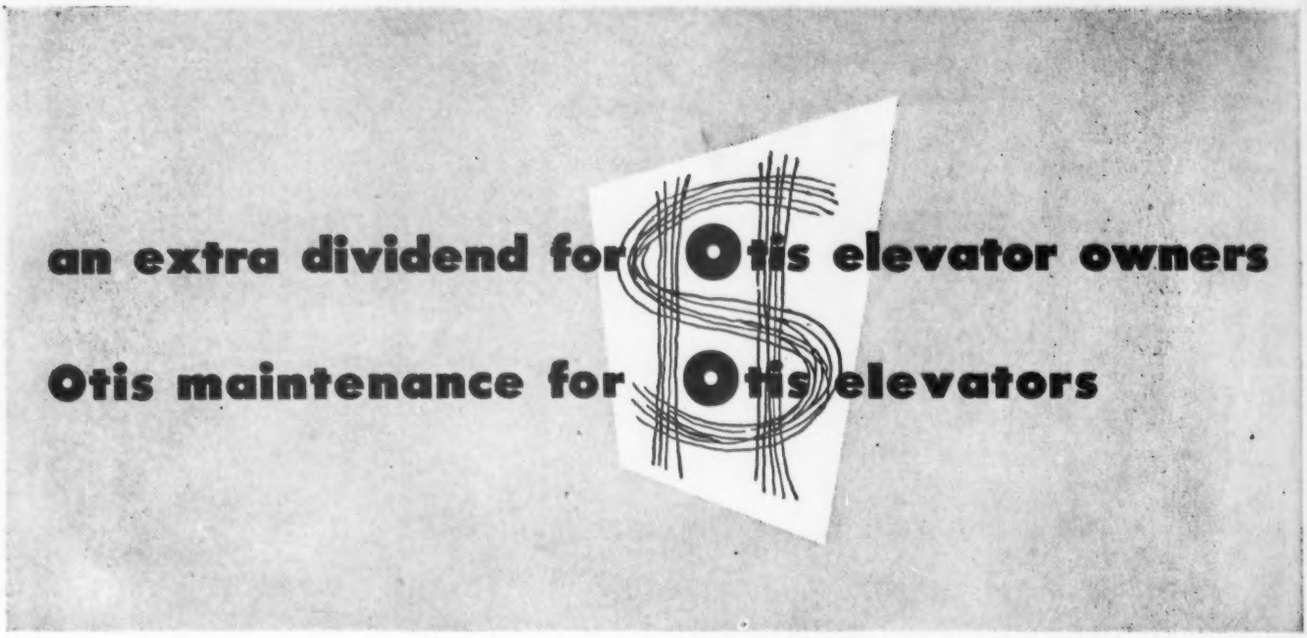
ADVANTAGES YOU WANT

1. Main Drive assembled entirely on ball bearings, hardened and ground gears, worms and shafts—running in a bath of oil. Designed to give a tensionless and constant cloth speed.
2. Two heavy cast iron girts, which support frames and tub, designed as troughs to receive overflow from tub, dispensing liquor to sewer.
3. Chain drive to batch rolls and take up totally enclosed, running in oil.
4. Individually,—vertical mounted ball bearing motor, directly connected to main drive through a flexible coupling.
5. Twelve-inch diameter brakes mounted on a free wheeling arrangement.
6. Wide centers of batch rolls to accommodate a 36" diameter cloth roll.
7. Loading of machine from let off bar may be either constant or variable speed, simply by engaging or disengaging clutch.
8. Batch guides on angle and latch lock for safety of batched rolls.
9. Brake and starting controls on same end of machine.
10. Heavy batch up and take up brackets.
11. Extra heavy steel batch rolls with hard rubber covering extending over heads.
12. Stainless steel oscillating and submersion brackets, supported on frame.
13. Heavy gauge stainless steel idler rolls, roller bearings and housings.
14. Adjustable stainless steel curved bar.
15. Foot controlled dump lever, operated from either side of machine.
16. Two cast iron girts, supporting frames and tubs.
17. Heavy cast iron box type main frames.
18. Tub of heavy gauge stainless steel with ground and polished welded seams.
19. Controls—manual, or set to stop or reverse automatically at the end of each run.

VAN VLAANDEREN MACHINE CO.

370 STRAIGHT STREET, PATERSON, N. J.

World's largest manufacturer of machinery for processing modern fabrics



Otis Maintenance service is provided so quietly and with so little trouble to Otis elevator owners that many do not realize its true value to building management. ● Although it may not appear on the balance sheet, the value of this service may be measured in tenant satisfaction, more sales made or more freight moved, or in freedom from elevator care. It is especially valuable because of the spirit of the two thousand people who make up the Otis Maintenance organization. ● *Local* operations are conducted by 245 branch offices in 47 states, so that the men on the spot can act rapidly and effectively to give your building the best possible service. *District* and *zone* offices supervise field work and furnish supplies and emergency equipment. The *headquarters* organization provides all of the facilities and technical knowledge of the manufacturer. ● The service rendered is of such real and constant value that Otis Maintenance has more than doubled in volume every ten years. It could not thus increase without bringing the customers more than a dollar's worth of service value for every dollar spent. ● Otis Maintenance is a complete, flat-rate service for Otis elevators. It is available through your local Otis Elevator Company office.

Otis ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

Trouble-Proof

AGAINST CORROSION, CLOGGING AND PRODUCT CONTAMINATION

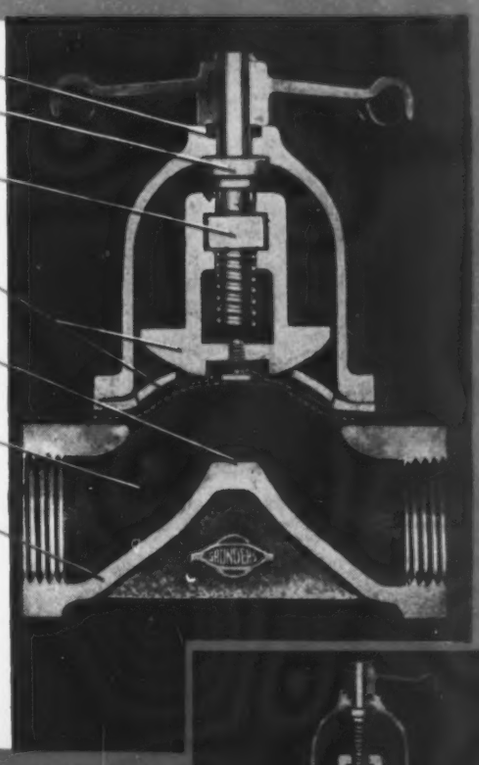
GRINNELL-SAUNDERS DIAPHRAGM VALVES

Screwed or Flanged Patterns

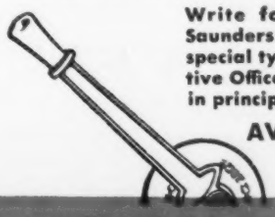
Users of compressed air, gases, viscous or corrosive liquids, food products and fluids containing suspended solids — this is the valve that may eliminate your troubles!

- ★ No packing glands to demand constant attention.
- ★ Non-rising stem eliminates breakage. Stem is protected from dust, weather and corrosion.
- ★ Working parts completely isolated from the fluid. No sticking, corroding or clogging to interfere with easy operation and tight closure. No contamination from valve lubricants.
- ★ Compressor and finger plate combine to support the diaphragm in all positions.

  The large area of contact of the diaphragm on the seat, plus the resilience of the diaphragm, permits positive closure even when foreign matter is trapped.
- ★ No metal-to-metal seats to become damaged, wire drawn or scored. No refacing, reseating or grinding is required.
- ★ Streamlined passage without pockets reduces friction to a minimum and prevents accumulation of sludge and foreign solids.
- ★ The valve body – the only metal that could contact the fluid – can be completely lined with glass, porcelain, lead, rubber or synthetic compounds (flange type only) to suit service requirements.



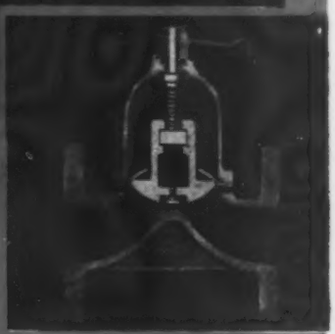
VALVE OPEN



Write for catalog describing Grinnell-Saunders Diaphragm Valves — standard and special types. Grinnell Company, Inc., Executive Offices, Providence 1, R. I. Branch offices in principal cities.

AVAILABLE IN SPECIAL TYPES

The "quick operating" lever design is one of several types.



VALVE CLOSED

GRINNELL

FOUNDED 1850

WHENEVER **PIPING** IS INVOLVED

Filtered Air SHOULD BE IN YOUR PICTURE

As a feature attraction, Filtered Air not only adds to living comfort but in many production processes frequently makes the difference between profit and loss—between customer preference and rejection.

By using DUST-STOP Air Filters, many concerns have learned that filtered air can be obtained at both low initial *and* low maintenance costs. The DUST-STOP is a replaceable-type air filter in which packs of adhesive-coated FIBERGLAS fibers provide an efficient medium for catching and holding most atmospheric and manufactured dusts.

DUST-STOP Air Filters are readily adapted to the smallest or largest heating, ventilating or air-conditioning system—may be installed in custom-built or the complete ready-to-assemble DUST-STOP steel frame cells that can be built up in any filter bank *to handle any c.f.m. of air required.*

Once the filter bank is installed, maintenance is easy and economical—for replacement DUST-STOPS are readily available from authorized suppliers in every community.

For typical installation details, see Sweet's Files. Or, complete information on DUST-STOP Air Filters will be sent on request; write: Owens-Corning Fiberglas Corporation, Department 864, Toledo 1, Ohio. Branches in principal cities.

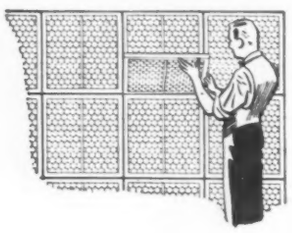
In Canada, Fiberglas Canada Ltd., Toronto, Ontario

*

See how Fiberglas is made—learn some of its many other uses.

Ask your theater manager when the "Popular Science" short subject, with the Fiberglas sequence, will be shown.

PRODUCED BY JERRY FAIRBANKS FOR PARAMOUNT PICTURES DISTRIBUTION.

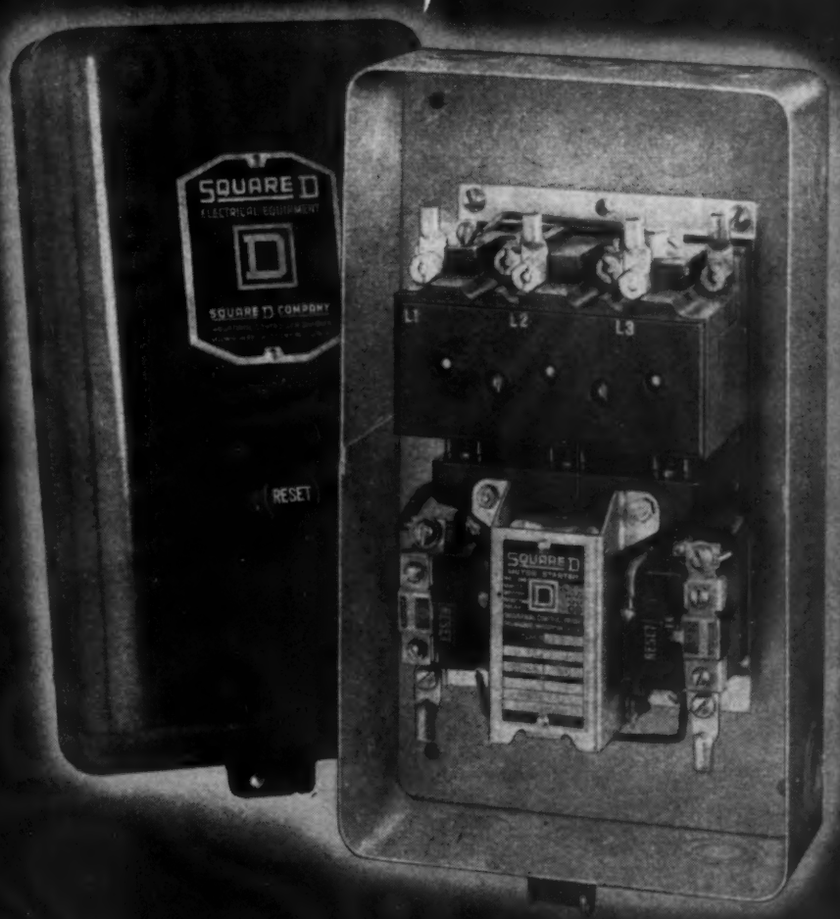


DUSTOP* AIR FILTERS

*T. M. Reg. U. S. Pat. Off.

—a FIBERGLAS product

Performance Plus



Class 8536 A. C. Magnetic Starter — one of a complete line of Square D starters available in a wide range of sizes and enclosures.

with SQUARE D Starters

They are simply designed. Magnet coils, contacts and overload relays can be changed quickly, without disturbing external connections. They are compact, yet afford generous wiring space and easy-to-reach terminals. Installation and inspection are faster and easier. And—completeness of line (both A. C. and D. C.) means the right starter for any given application.

Wherever Electricity is Distributed and Controlled

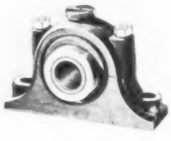
SQUARE D COMPANY

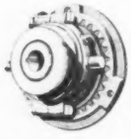
DETROIT • MILWAUKEE • LOS ANGELES

TRANSMISSIONEER...

WHO'S HE?

He's a graduate of a Dodge factory course, qualified by intensive training and a broad practical experience to give you the latest answers to problems in efficient mechanical transmission of power—in your plant or as applied to your product.





The Transmissioneer is backed by a broad line of Dodge bearings, sheaves, pulleys, clutches and other drive components. He is qualified by training and experience to select elements which make *the right drive for the job.*

Typical of the engineering advancement which marks Dodge products is the new Taperlock sheave, which has the simplest, surest mechanism ever devised for fastening wheels to shafts. For information about Taperlock—and other new developments in the mechanical transmission of power, call the Transmissioneer — your local Dodge distributor. Most power drive requirements can be supplied direct from the distributor's stock.

Look in the classified telephone directory under "Power Transmission Equipment" for your Transmissioneer's name and number. Call him for advice—without obligation.

DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

To obtain his diploma every Transmissioneer must pass an intensive course of training at the Dodge factory. Lectures, classroom work and practical demonstrations of power transmission problems make up the course.

DODGE
MISHAWAKA

THE SYMBOL THAT CAME TO LIFE

257 factory graduate Transmissioneers wear this sign of a nation-wide personal service that helps you put all your power into the job.

Copyright, 1946, Dodge Mfg. Corp.

NAME PLATES

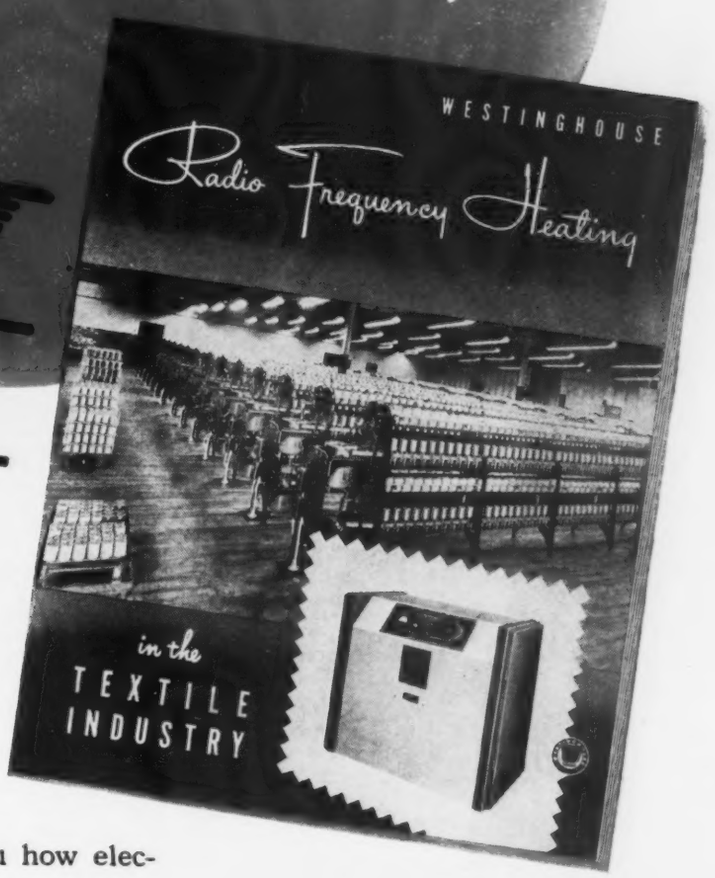
FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

Electronic Heating

cuts work in process

reduces space needed for dryers

lowers operating costs



This new book by Westinghouse tells you how electronic heating can bring these three important benefits to twist setting, cake drying and dye-package drying.

It shows you how to utilize a combination of oven-drying and electronic heating to speed production at minimum power consumption. It shows a comprehensive line of electronic heating units—2 to 100 kw—to meet every heating requirement for modern textile production. Your nearest Westinghouse office has a copy of this book ready for you now. Ask for B-3551. Or write Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania. J-08159

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Electronics at Work

WESTINGHOUSE

H & B AMERICAN

An Open Letter from

H & B AMERICAN MACHINE COMPANY

BUILDERS OF
TEXTILE MACHINERY

CHARLOTTE, N. C.
ATLANTA, GA.

EXECUTIVE OFFICE
PAWTUCKET, R. I.

August, 1946

TO OUR VALUED CUSTOMERS AND THE TEXTILE INDUSTRY:

Three months ago the controlling interest of this Company was acquired by the undersigned. In a release to the press and trade papers several weeks later we announced the Company's new Board of Directors and Officers and stated that the policy of the new ownership and management would be to increase the Company's facilities for adequately serving both domestic and foreign markets and to give particular attention to the requirements of our many customers of long standing.

The H & B American Machine Company has a distinguished heritage and a long and notable record in serving the textile industry in this country. The Company's new management is proud to become the custodian of that heritage and its purpose and policy will be to continue and increase that service record in every possible way to the satisfaction of its customers and to the benefit of its employees and stockholders. We are presently engaged in the improvement and expansion of our plant, engineering, and service facilities. With this we will be able to take care of your requirements in the future on a substantially greater scale and with the high quality and workmanship for which H & B machinery has been noted so long in the trade.

Along with American Industry in general, we are desirous of increasing our position in world trade and serving foreign as well as domestic markets to the best of our ability. The importance of such program in the interest of the future economic stability and peace of the world is generally acknowledged and a factor aside from our personal interests. We wish to herein emphasize however, that in the development of such a program our first obligation and primary interest is to meet the needs of our domestic customers. The development of our foreign markets will be carried out in equitable balance with the requirements of the textile mills of this country.

We have heard of rumors in the trade to the effect that this new management might divert the Company's future production to export markets in preference to the requirements of the domestic trade. Such rumors, however naturally arising in the light of the undersigned's former interests and position in foreign trade and the China territory in particular, are quite unfounded. To dispel these rumors and clarify the Company's position and program as it relates to the interests of our past, present, and future customers is one of the purposes of this personal message.

On behalf of our Company I wish to express our appreciation of the past patronage and cooperation of all our customers and friends in the industry and our sincere desire to enjoy even closer relations with you in the years to come. We will at all times welcome your inquiries or suggestions.

William A. Sipprell, Jr.
Chairman of the Board

EXECUTIVE OFFICES AND EXPORT DIVISION
PAWTUCKET, RHODE ISLAND, U. S. A.

MACHINE COMPANY

The New Management

BOARD OF DIRECTORS

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Louis C. Edgar, Jr.
Elmer J. McVey
Frederick J. deLorme
Walter H. Greenwood
Melville F. Weston

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Chairman of the Board

Louis C. Edgar, Jr.
President

Elmer J. McVey
Exec. V.P. and Gen. Mgr.

Frederick J. deLorme
Secretary-Treasurer

Walter H. Greenwood
Assistant Secretary

Alden B. Ackerman
Assistant Treasurer

BRANCH SALES EXECUTIVES

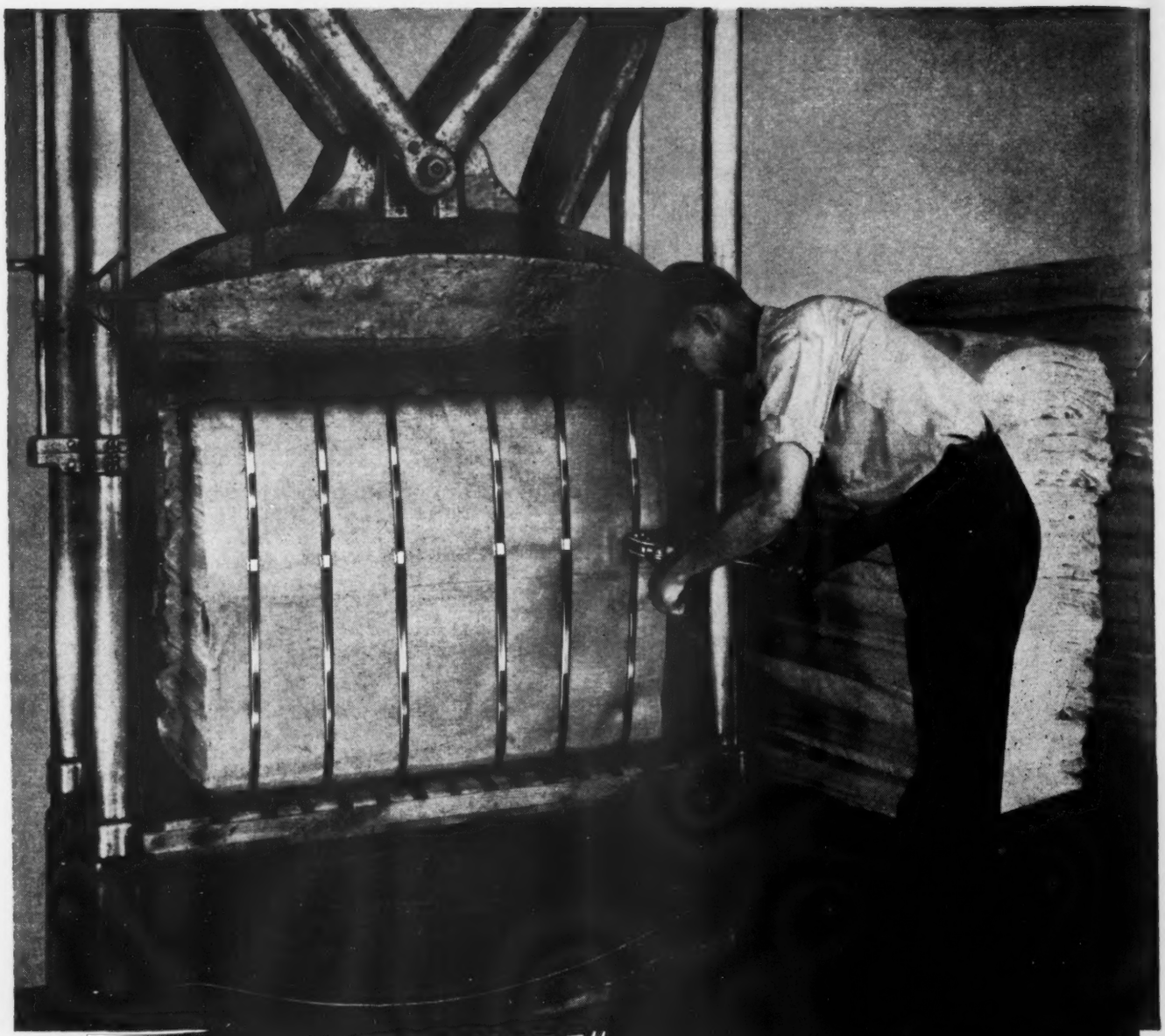
ATLANTA, GA.—J. Carlile Martin, Mgr.; Herman J. Jones, Asst. Mgr.
CHARLOTTE, N. C.—Fritz Zweifel, Mgr.; Fred Dickinson, Asst. Mgr.;
J. T. Miller, Southern Service Mgr.

THE H & B LINE—for COTTON AND SYNTHETIC FIBRES

BLENDING FEEDERS • OPENING EQUIPMENT • ONE-PROCESS PICKERS • REVOLVING FLAT CARDS • DRAWING FRAMES • ROVING FRAMES • HIGH-DRAFT ROVING SYSTEMS • SPINNING FRAMES • HIGH-DRAFT SPINNING SYSTEMS — CASABLANCAS AND 4-ROLL • TWISTERS • RUBBER COVERING MACHINERY

BRANCH SALES OFFICES

ATLANTA, GA.—815 Citizens & Southern National Bank Building • CHARLOTTE, N. C.—1201-1203 Johnston Building



"BOUND TO GET THERE"

Boxed, Bundled or Baled!

...WITH Acme Steelstrap

REG. U. S. PAT. OFF.

No matter how your textile product goes, it will move more secure against everyday shipping hazards when banded with Acme Steelstrap.

You save, too, on warehousing space, shipping weight, dunnage, freight claims . . . and profits rise proportionately.

So, whether your textile shipments are single units, carloads of freight, or ships' cargoes . . . use Acme Steelstrap for boxing, bundling, or baling. It means the most efficient shipping pack.

NEW YORK 7 ATLANTA CHICAGO 8 LOS ANGELES 11

ACME STEEL COMPANY

ACME STEEL CO.
CHICAGO

Enduro Pays in many ways

Better dyeing results—faster cleaning time—freedom from color contamination—longer equipment life—these are important advantages of Republic ENDURO Stainless Steel. Also important, from an initial equipment cost standpoint, is the ease with which ENDURO can be fabricated into textile processing equipment.

While reasonable care must be taken in working any of the stainless steels, ENDURO fabricates readily and easily in most cases with the same equipment used in working ordinary carbon steel analyses.

For complete details about the fabricating and welding of Republic ENDURO Stainless Steel, or information on ENDURO'S many other cost-saving advantages, write to:

REPUBLIC STEEL CORPORATION

Alloy Steel Division • Massillon, Ohio

GENERAL OFFICES • CLEVELAND 1, OHIO

Export Department: Chrysler Building, New York, 17, N. Y.

Improved Employee Relations
Easy to Clean
Assures "True" Colors
Non-Contaminating
Strong—Long Lasting
Resistant to Rust and Corrosion
Easy to Fabricate
Universal Acceptance
Low Ultimate Cost

Typical of the stainless steel applications in the textile industry are these dye machines, made entirely of Republic ENDURO. Other applications include bleaching equipment, agitators, dry cans, dye tanks, fulling machines, reels, rolls and sizing equipment.

Republic

ENDURO STAINLESS STEEL

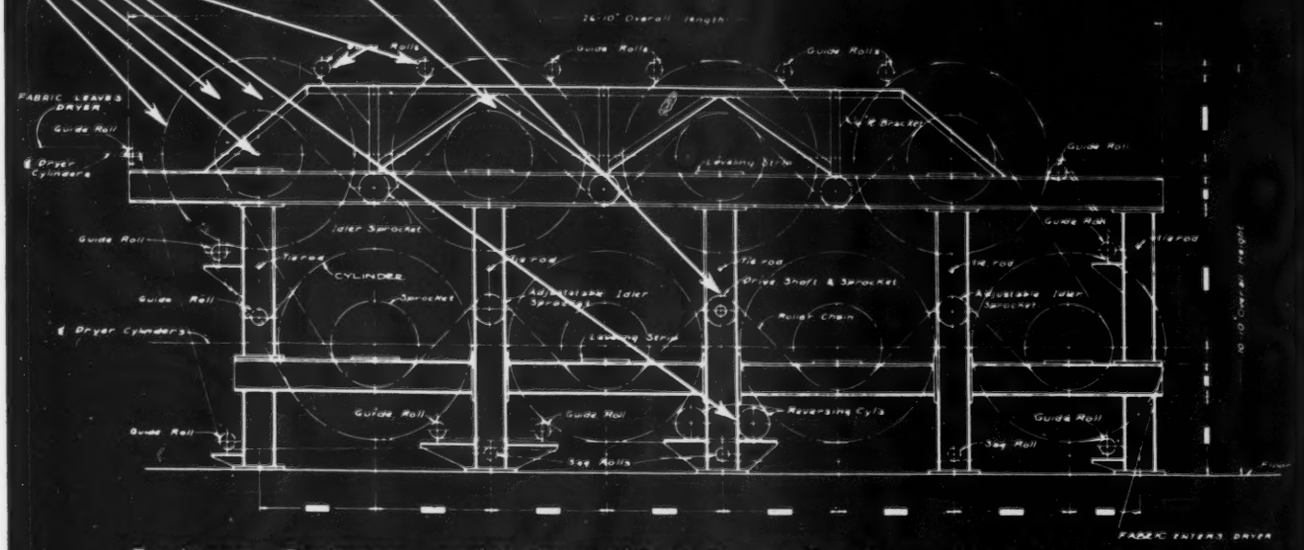
Reg. U. S. Pat. Off.

Other Republic Products include Carbon and Alloy Steels—Pipe, Sheets, Strip, Plates, Bars, Wire, Pig Iron, Bolts and Nuts, Tubing

UNISTEL

STAINLESS STEEL BACK DRYERS

Cylinders have solid Stainless Steel Shells.
Cylinders steam jacketed for 35 # WP and Welded To A.S.M.E. Code
Cylinders have close tolerances for Diameters & Circumferences
Cylinders mounted on roller Bearings
Cylinders equipped with Pressure Joints with adjustable supports
Steam distribution system on Interior piped to obtain uniform distribution at several points and not impinge on S. S. Shell
Syphon System Through rotary valve and piped from Several points in the Jacket making continuous and Uniform Scavengering of Exhaust
Cylinders have easy access Manways
Reversing cylinders of Stainless Steel
Reversing cylinders mounted on Roller Bearing
Reversing cylinders have combination Pressure Joints & Syphons
Guide rolls of Stainless Steel
Guide rolls mounted on Ball Bearings
Guide rolls Set Close to gain drying surface on cylinders
Sprocket and Roller Chain drive
Main drive mounted on Roller Bearing
Welded Structural Frame
Each cylinder can be removed individually



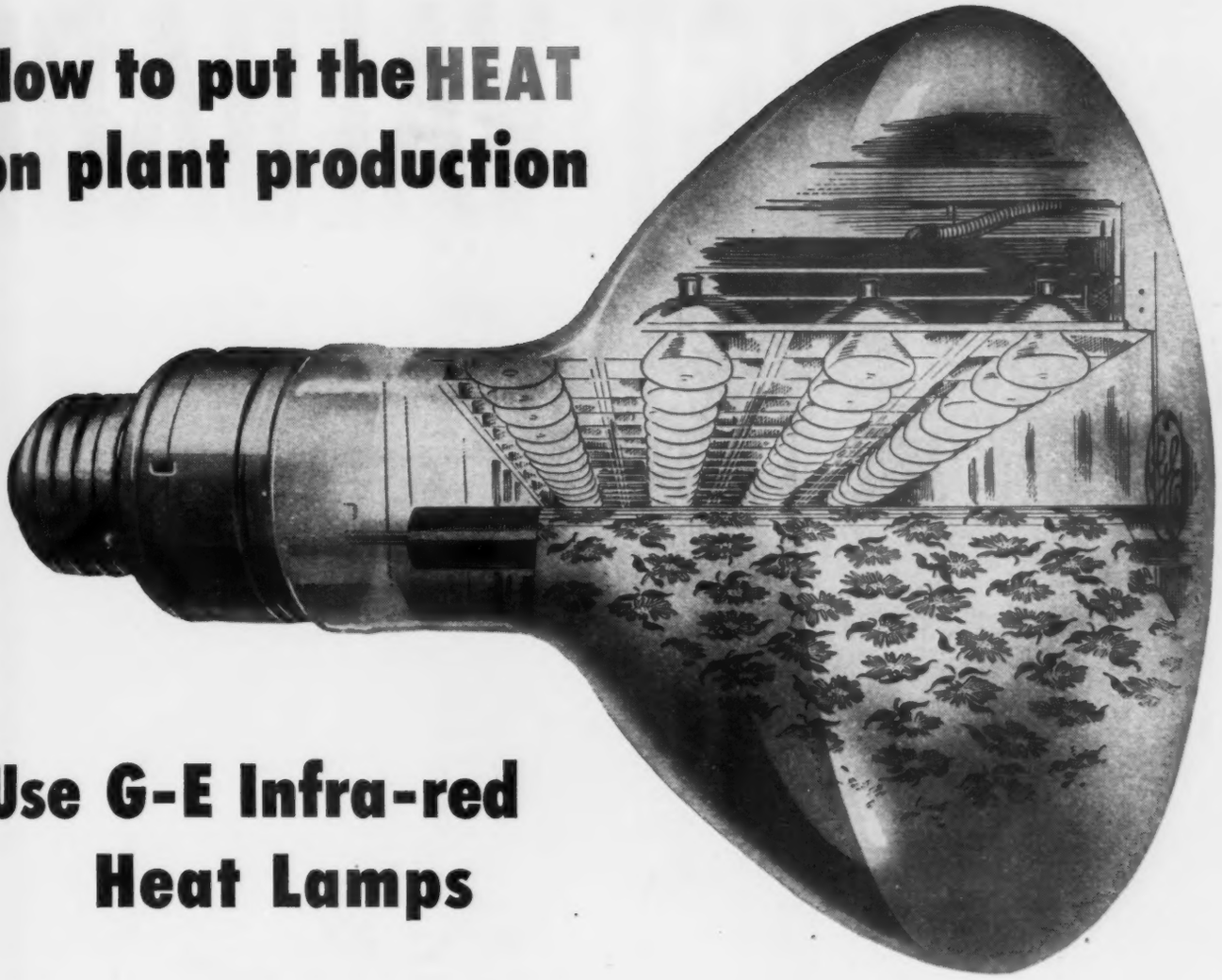
Engineers—Designers—and Builders of Back Dryers, Can Dryers, Kiers, Kettles, etc.

UNITED STEEL OF AMERICA, INC.

30 ROCKEFELLER PLAZA
NEW YORK 20, N. Y.

Canadian Representatives: United Steel Corporation Ltd. of Canada, Toronto

How to put the HEAT on plant production



Use G-E Infra-red Heat Lamps

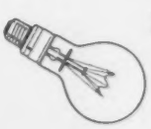
ARE YOU SATISFIED with the efficiency of drying and heating operations in your plant? Don't be—until you consider these six important advantages you can gain by installing infra-red ovens equipped with G-E Industrial Heat Lamps.

1. **LOW FIRST COST**—Equipment is simple and easy to install.
2. **FASTER PRODUCTION**—Properly engineered applications reduce processing time.
3. **LOW MAINTENANCE COST**—Minimum inspection and repair.
4. **INSTANT HEATING**—Radiant energy from G-E Industrial Heat Lamps creates heat on contact with work. No "warm-up" period is needed. Can be turned on and off as required.
5. **FLEXIBILITY**—Infra-red ovens are compact, movable, readily adapted to a wide variety of operations. They utilize factory space to best advantage.
6. **COMFORTABLE WORKING CONDITIONS**—No excessive heat around ovens. Improves plant morale.

G-E LAMPS

GENERAL ELECTRIC

CONSULT an infra-red oven manufacturer to assure best results with G-E Industrial Heat Lamps. Proper oven design is *important* to successful operation.



NEW! ...Just added to the line of G-E Industrial Heat Lamps. G-30 in 250 and 375-watt sizes, with mechanical bases and 5″ L.C.L. Suitable for all types of infra-red open reflector installations.

FOR FURTHER INFORMATION on G-E Industrial Heat Lamps and how they can step up production and lower costs in your plant, write to General Electric Lamp Dept., Div. 166 TW-8, Nela Park, Cleveland 12, Ohio.

Hercules offers you its

MOST VALUABL

Background: Hercules Experiment Station, Wilmington, Del. *Foreground:* Fred Donovan, Technical Sales Representative, Naval Stores Department.

IT PAYS TO KNOW *MORE* ABOUT

HERCULES

ASSETS...

1. Research
2. Service

AT HERCULES' 37-acre Experiment Station, alone, more than 600 workers are employed constantly in improving existing Hercules products, and in developing new products and applications.

Linking these valuable research facilities to you are the numerous Hercules highly-trained field representatives. They are ready at all times to serve you in the application of Hercules products, no matter how moderate your needs.

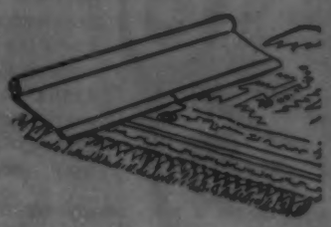
For a description of the many Hercules chemical materials for industry, mail the coupon for your copy of the new 40-page book, "Hercules Products."

EMICAL MATERIALS FOR
E TEXTILE INDUSTRY

Hercules chemical materials for the textile industry include:

B-3 Reagent...
Used as a delustering agent in the processing of rayon, both in manufacturing and finishing operations.

Clorafin*...
Hercules low-cost chlorinated paraffin for flame- and water-resistant coatings for canvas and other textiles.



Flexalyn*...
An economical binder for corn and other starches for back-sizing carpets, tag cloth filling, window shades.

Pine Oil...
Yarmor* 302-W pine oil is a low-cost wetting agent and penetrant used in wet processing all textile fibers.

Terpasol* 8...
One of a series of solvents and plasticizers for textile chemicals. An excellent dispersant for pigments.

Nitrocellulose...
Hercules nitrocellulose and ethyl cellulose are the basis for rapid drying, durable, brilliant textile coatings.

*Reg. U. S. Pat. Off. by Hercules Powder Company

FOR FURTHER DETAILS

HERCULES POWDER COMPANY
INCORPORATED
994 Market Street, Wilmington 99, Delaware.
Please send copy of "Hercules Products"

*Name*_____

*Title*_____

*Company*_____

*Street*_____

*City*_____ *Zone*____ *State*_____

T-66

WHAT USERS SAY ABOUT AMCO

SUPERINTENDENT OF LARGE COTTON MILL EXPECTS 10% INCREASE IN WEAVE-ROOM EFFICIENCY FROM NEW HUMIDIFYING SYSTEM

"We have just contracted for a humidifying system for the weave room. This system will guarantee us a relative humidity of 80% with a 10% variation in temperature.

"At present, we have nothing to make working conditions in this room more pleasant, and the heat in this room is unbearable. We are certain that by installing this new humidifying system we may expect a better morale to result. From this better working condition we expect to get a 10% rise in efficiency.

"We considered installing air conditioning in the weave room instead of this humidifying system. But this air conditioning involved (1) too much money, (2) considerable duct work overhead, and (3) the problem of dust and lint eventually getting into the screens, which would necessitate frequent cleanings.

"Whereas with the humidifying system, we don't have any ducts. We are putting in 19 ventilating fans; each one is automatically controlled."

HUMIDIFYING EQUIPMENT PAYS FOR ITSELF MANY TIMES OVER IN THIS WORSTED MILL

"We were not aware of short selling ourselves on top until we discovered by accident a couple of years ago that our combed wool was far under regulation of standard moisture content," says the vice president. "Ours was running dry. We installed humidifying equipment, and now our average moisture content is 11%. This equipment has paid for itself many times."

★

THESE two clippings refer to the results of Amco Humidification Systems such as that shown below whereby a prominent worsted manufacturer reaped the benefits of Amco humidification *in every major department of his mill!*

An Amco System automatically holds humidity right on the mark . . . cuts breakage of warp and filling . . . reduces imperfect goods . . . keeps production at peak capacity. Self-cleaning Amco Atomizers deliver finely atomized spray without drip or feathering down – the self-cleaning feature in both air and water nozzles reduces maintenance to a minimum.

Right now – find out how Amco can speed up production and cut costs. Let an Amco engineer survey your plant and submit recommendations for the exact system to meet the particular conditions and needs of your mill.

EVERY DEPARTMENT OF THIS WORSTED MILL IS BENEFITING FROM AMCO HUMIDIFICATION

CARDING

COMBING

DRAWING

SPINNING

AMCO HUMIDIFICATION

AMERICAN MOISTENING COMPANY, Providence 1, R. I. • Atlanta • Boston • Charlotte

color
..THE MASTER SALESMAN
FRANKLIN PROCESS COLORS, skillfully selected and combined, are doing wonders for the women's footwear industry (see samples herewith).
Have you considered Franklin Process Colored Yarns for your products? They are "conveniently yours" from one or all of four plants with a total capacity of over 600,000 lbs. a week. They are also uniform as to shade and quality, for all plants use identical formulas for standard shades and the same type of equipment.
Our services include a yarn department and color consultation, which operate without extra cost to you.
PROVIDENCE
PHILADELPHIA
Franklin Process

FOSTER MODEL 102
FOR PACKAGE DYEING

Typical Packages Wound at High Speed

A package dyer's production is limited to a large extent by the capacity of his winding department. Hence it is important for him to get maximum winding production with minimum investment, low operating cost and few repairs.

Foster Model 102's in the package dyeing industry are regularly running at high speed, giving twice the production of obsolete winding machines with a reduction in operating cost of 33 1/3%. Repair costs are also low, — as little as $3.50 per year per 100 spindle machine in many cases.

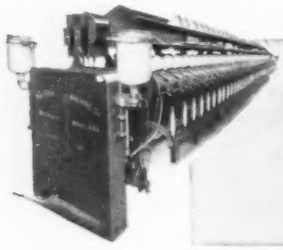
DYEING QUALITY MAINTAINED

With all these savings there is no sacrifice in package "dyeability". In fact the trend among dyers using Model 102's is toward larger and larger packages without loss in penetration or levelness. That's because the drum wind gives uniform yarn speed and therefore uniform package density.

ECONOMY FEATURES INCLUDE —

— self threading tension and slub catching attachment. Automatic size stop motions, which stop package at any predetermined diameter, eliminating hand gauging. Flexibility (angle of wind easily changed and machine may be readily equipped for cone winding if desired.)

Bulletin A-95 on request.



FOSTER MACHINE CO., Westfield, Mass., U. S. A.

Southern Office: Johnston Bldg., Charlotte, N. C.; Canadian Representative, Ross-Whitehead & Co., Ltd., University Tower Bldg., 660 St. Catherine St., West, Montreal, Quebec

Textile Production Up – COSTS DOWN

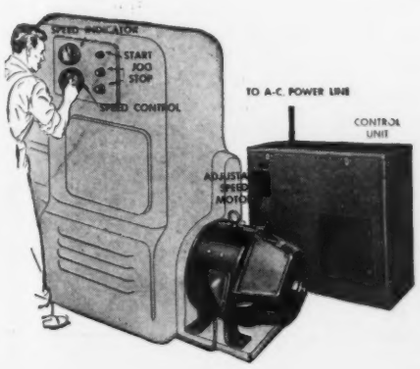
with Reliance V★S Drive

Wherever Reliance V★S Drive is introduced in a textile mill, quantity and quality of production increase while costs decrease. V★S, the *All-electric, Adjustable-speed Drive operating from A-c. Circuits,* makes any machine far more efficient.

V★S offers an infinite range of stepless speed changes—smooth starts and stops—maintenance of proper tension. Its all-electric control may be automatic or manual, either at the machine or from remote stations. Conveniently-packaged, space-saving V★S units have proved their value in many types of textile mill equipment—cloth printing machines, continuous bleaching ranges, beamers, slashers and others. Write today for Bulletin 311, which gives you more of the money-saving facts about V★S Drive.

RELIANCE V★S DRIVE

THE ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE for A-c. Circuits

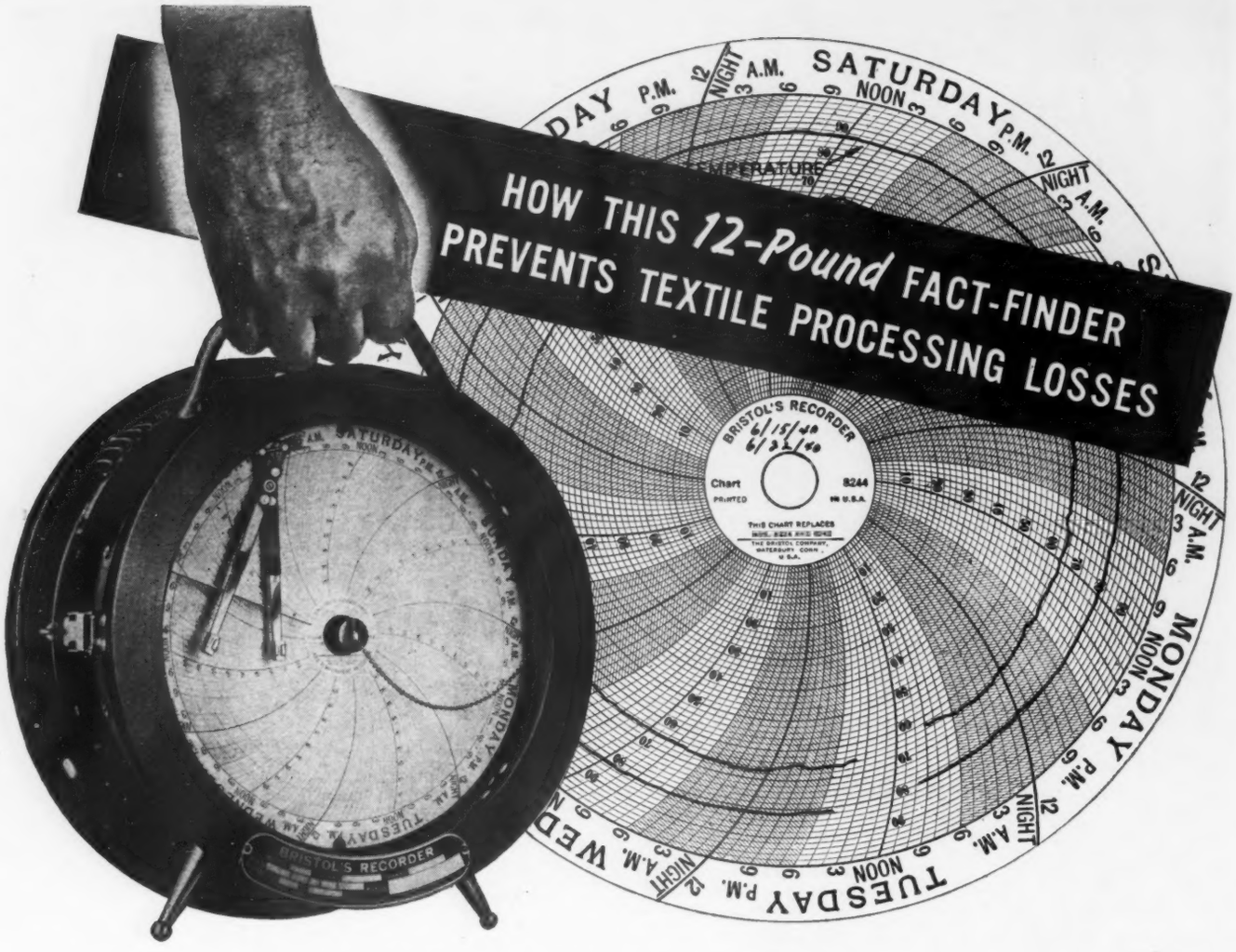


RELIANCE ELECTRIC & ENGINEERING CO.
1086 Ivanhoe Road • Cleveland 10, Ohio

Birmingham • Boston • Buffalo • Chicago • Cincinnati • Denver • Detroit • Gary Greenville • Houston • Kalamazoo • Kansas City • Knoxville • Los Angeles Milwaukee • Minneapolis • New Orleans • New York • Philadelphia • Pittsburgh Portland, Ore. • Rockford, Ill. • St. Louis • San Francisco • Seattle • Syracuse Tampa • Tulsa • Washington, D. C.

RELIANCE A-C D-C MOTORS

"Motor-Drive is More Than Power"



BRISTOL'S PORTABLE THERMO-HUMIDIGRAPH gives you an exact, continuous record of humidity and temperature on 24-hour or 7-day charts

Fully self-contained and weighing only 12 pounds, this Bristol Portable Thermo-Humidigraph is easy to carry . . . can be hung up or set down wherever needed, indoors or out, for an overall survey of humidity and temperature conditions. By means of a new, improved hygroscopic measuring element, it records humidity in colored ink along with temperature on 8-inch charts that give you the whole story at a glance. No guesswork. No need for humidity tables, computations or wet bulb readings.

With this simple, compact instrument leading mills are now getting the detailed information needed to keep humidity and temperature at peak efficiency. Read what a few of the many mill executives have written about Bristol's Thermo-Humidigraph:

". . . Helps maintain an even temperature and humidity . . . saving money by cutting down waste and giving a more uniform product."

". . . Gives us a check on the machines used for correcting the humidity . . . we can keep a better check on the weight of the yarn."

". . . The most economical method of providing a record of the relative humidity in our manufacture."

". . . Elimination of doubt as to causes of trouble has enabled us to maintain uniform conditions and has reduced losses."

SERVES THE WHOLE FIELD

Bristol's Thermo-Humidigraph provides vital facts for every textile operation where temperature and humidity are factors . . . including carding, combing, roving, spinning, weaving, knitting and throwing . . . and for every type of textile, from cotton, wool and silk to the latest synthetics.

WRITE FOR DATA

In addition to the spring chart-drive model shown, Bristol's Thermo-Humidigraph is also furnished in electric-drive, with fan, for areas where there is not enough natural circulation to bring a representative air sample in contact with the temperature and humidity measuring elements; and, as a Humidigraph only, without the temperature-measuring element. For further information address THE BRISTOL COMPANY, 157 Bristol Road, Waterbury 91, Conn. (The Bristol Co. of Canada, Ltd., Toronto, Ont. Bristol's Instrument Co., Ltd., London, N. W. 10, England.)

Engineers process control for better products and profits

AUTOMATIC CONTROLLING AND RECORDING INSTRUMENTS

CROUSE-HINDS

Flexible Fixture Hangers

easy to install — long life — low maintenance cost

The illustrations show a representative selection from the dozens of types and sizes of flexible lighting fixture hangers that are listed in Crouse-Hinds Condulet Catalog 2500.

No. 11
of a series of advertisements which demonstrate, that CROUSE-HINDS "complete line" means much more than just a range of sizes—there is a wide variety of highly specialized types in each classification.

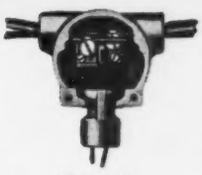
Type ALA Ball Hanger

Type ALT Ball

Type ALA Cushion Hanger

Type ALT Cushion

Type ALC Ball
Broken-away view


Type ALC
with Connection Block
Cover Removed

Type ALC Cushion

Type AHG Cushion
Vaportight

Type ALL Ball

Type GS Ball

Type GS Cushion

Type ALL Cushion

Type H Cushion

Type UNJ Ball

Type UNJ Ball

Type ARB Ball

Type ARB Cushion

Type OFH Cushion

Type OFH Cushion with
Clamp for Span Wire

Type UNJC Cushion

Type UNJC Cushion

Type UNC Cushion

Type COUP Locking
Coupling for locking
fixture stem to
Condulet hub

Type OSA

Type UNH Hook
Male

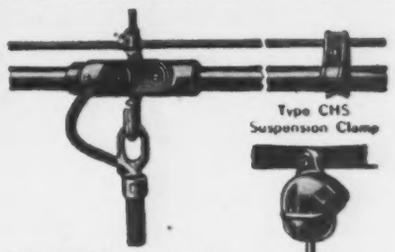
Type UNH Hook
Female

Type UNHC Cushion

Type UNE Loop
Male

Type UNE Loop
Female

Type FOH
for fluorescent
lighting fixtures


Type C Condulet Suspended
on a Span Wire with
Type OSA Suspension Hanger

Type C Condulet with
Fixture Hook and Loop

Type CHS Suspension
Clamp with Ring

Type ALC Ball
Fixture Hanger with
Lighting Fixture

Type CHS
Suspension Clamp

Type OFH Cushion
Fixture Hanger
Bolted to Structure
with Lighting Fixture

Type GS Ball
Fixture Hanger with
Type GSC Condulet
and Lighting Fixture

Type AHG Cushion
Fixture Hanger with
Type T Condulet and
Type VDA Lighting Fixture

A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY
Syracuse 1, N. Y., U.S.A.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Kansas City — Los Angeles — Milwaukee — Minneapolis — New York Philadelphia — Pittsburgh — San Francisco — Seattle — St. Louis — Washington *Resident Sales Engineers:* Albany — Atlanta — Charlotte — Indianapolis — New Orleans
CROUSE-HINDS COMPANY OF CANADA, LTD. *Main Office and Plant* TORONTO, ONT

CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

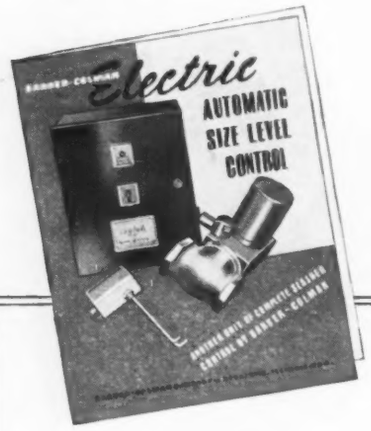
PART OF THE COMPLETE BARBER-COLMAN SYSTEM OF SLASHER ROOM CONTROLS

Electric
SIZE LEVEL CONTROL

BY BARBER-COLMAN

The purpose of this equipment is to maintain *automatically* a constant depth of liquid in the size box, and thus to assure uniform coating and proper saturation of the yarn. The sensitive element is a dual-electrode assembly, mounted in the size box, which detects any change in the liquid level. A self-closing motor-operated valve on the size line is opened and closed by impulses which originate at the electrodes and are transmitted through a motor relay in the control box. Size is added whenever the level falls below a certain point and the flow is shut off when the desired level is reached. Thus the level of size in the box is *automatically* maintained at the desired point. This Barber-Colman control is only one of several units designed and built for slasher room service. Other units include the Electronic Moisture Content Controller, Size Temperature Control, and Cylinder Temperature Control. Barber-Colman equipment is *electrically-operated* throughout and produces accurate, dependable results.

For details on Size Level Control equipment including descriptions of the various units, methods of application, and circuits used, write for the new brochure shown below.



FOR GOOD AUTOMATIC CONTROLS — LOOK TO BARBER-COLMAN

Barber-Colman Company

45 YEARS EXPERIENCE SERVING TEXTILE MILLS

ROCKFORD ILLINOIS | BOSTON MASSACHUSETTS | GREENVILLE SOUTH CAROLINA | GREENSBORO NORTH CAROLINA | ATLANTA GEORGIA

LAWRENCE SPINNA CALF

. . . the most generally used calfskin

For fine spinning no other roll covering material takes the place of calfskin . . . and among those mills that have built a reputation for quality, Lawrence's Spinna Calf is the brand most generally used . . . Spinna Calf has exactly the right surface for smooth, sure drafting. It is non-sweating. It holds its shape and "body". It can be depended upon for unvarying quality. Tell your roll coverer you want Spinna—preferred by so many of the quality spinners . . .

A. C. Lawrence Leather Company, Peabody, Mass., manufacturer of Lawrence Calfskins—*1st choice for aprons.*

Represented by H. H. Hersey, Greenville, South Carolina.

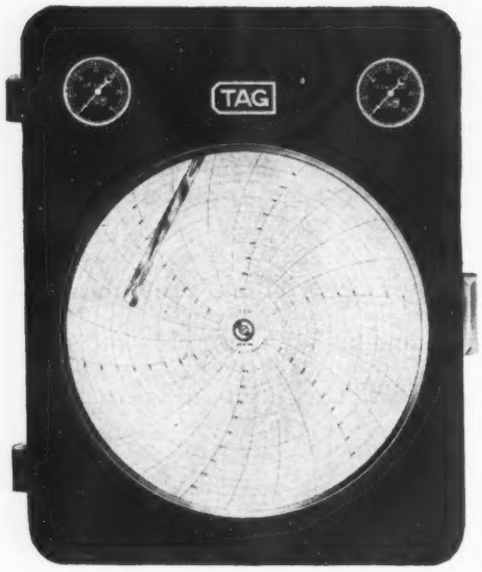
A. C. LAWRENCE LEATHER CO. TEXTILE LEATHERS PEABODY MASS

EVERY YEAR MORE PEOPLE DECIDE LEATHER IS BEST

TAG CAN TELL YOU *How to Make Heat Behave*

PROBLEM: We have had many shutdowns recently in our cotton mill, due to shedding at the slasher and on the looms. Could this condition be remedied by automatic heat control?

ANSWER: Shedding usually is due to one of two things, both involving improper heat control. First, undercooking of the size. Second, permitting the temperature of the size to drop between completion of cooking and application of size to the yarn. TAG Automatic Control, by maintaining the correct temperature all along the line, would eliminate this difficulty.



TAG Automatic Recorder-Controller. Holds heat where you want it. Maintains permanent record of temperature.

There are many fine details involved in the proper mixing, cooking and application of size. Time, temperature and uniformity must be correct *always* or the size will be either stiff and brittle as it dries, or soft and sticky. Result: loss of time, material, money.

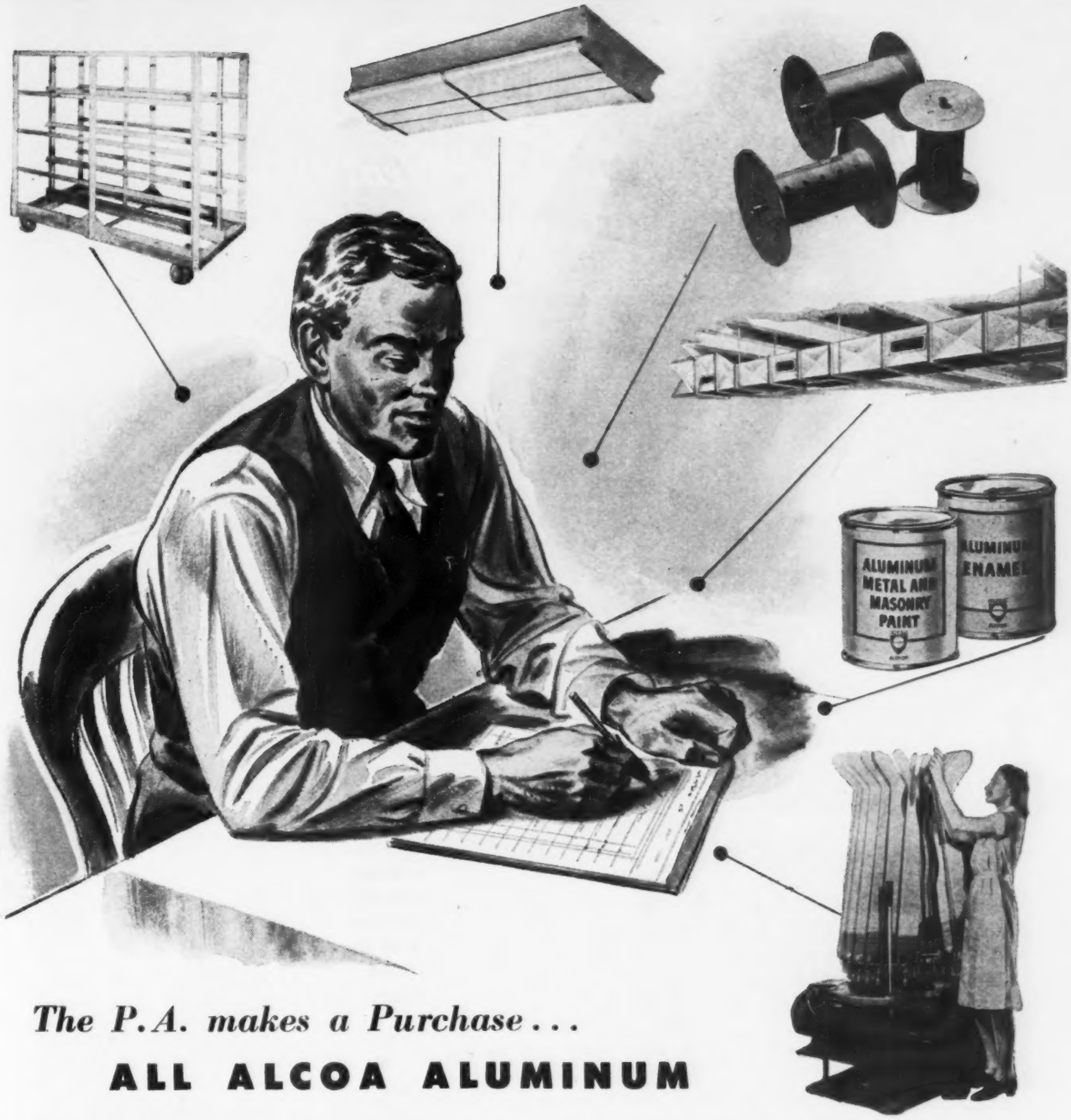
What you want is a size that will penetrate the yarn . . . a size that dries smoothly. You'll get it if you use TAG Automatic Control. A TAG system can: (1) Regulate the cooking temperature; (2) Regulate the rate of rise to cooking temperature; (3) Hold the prescribed temperature *after* cooking until size is applied. This will give you absolute uniformity in batch after batch.

Find out more about the many advantages of TAG Automatic Control, when used in this and other operations in your mill. Write us, stating the operation involved and your heat control requirements. Our engineers will recommend the proper TAG instruments.

C. J. TAGLIABUE *Division* **561 Park Ave., Brooklyn 5, New York**

PORTABLE PRODUCTS CORPORATION

MANUFACTURERS OF: LAWN MOWERS • ELECTRICAL APPLIANCES • PRECISION STAMPINGS INDUSTRIAL INSTRUMENTS • RADIOS • SAFETY EQUIPMENT



The P.A. makes a Purchase . . .

ALL ALCOA ALUMINUM

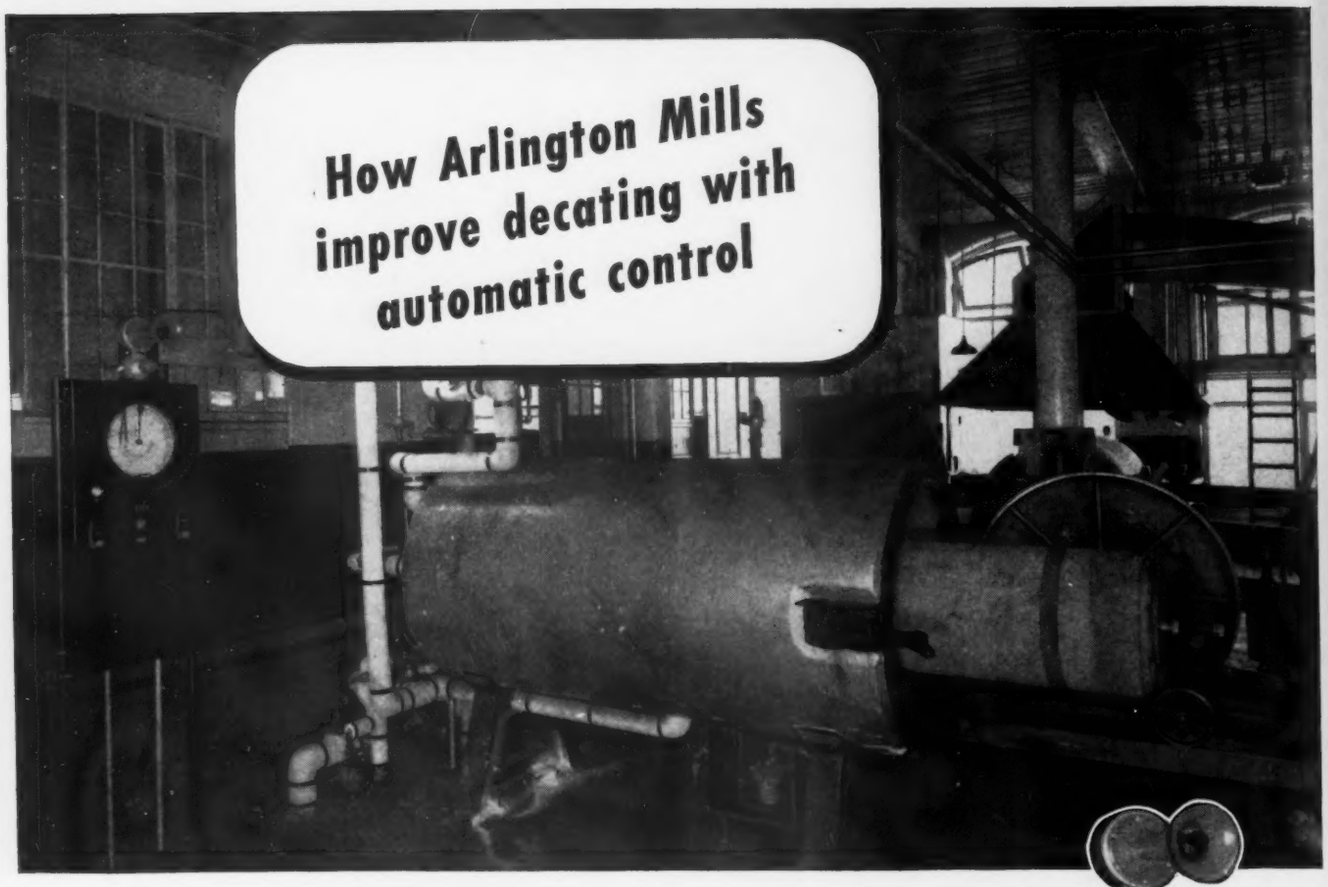
This textile mill Purchasing Agent knows he is buying *right,* because his mill's experience with products made of Alcoa Aluminum has been excellent—for three very sound reasons:

(1) *High Speed*—Alcoa Aluminum's light weight in textile machinery parts means low inertia on reverse motions, fast starts and stops. Reduces vibration, a major cause for machinery going out of order. (2) *Low Maintenance*—Because the high strength of Alcoa Aluminum can take the constant pounding of equipment running at high speeds, there is less fixing and replacing of parts, lower maintenance costs. (3) *Long Life*—Aluminum's high resistance to corrosion assures longer life of textile machinery. Aluminum hoods and ducts protect textiles against stains during manufacture. Condensate produces no rust to drop down and cause seconds. Think as this "P.A." thinks. Ask your supplier for equipment made of Alcoa Aluminum.

ALUMINUM COMPANY OF AMERICA, 1942 Gulf Building, Pittsburgh 19, Pennsylvania.

ALCOA FIRST IN **ALUMINUM**

ALCOA ALUMINUM



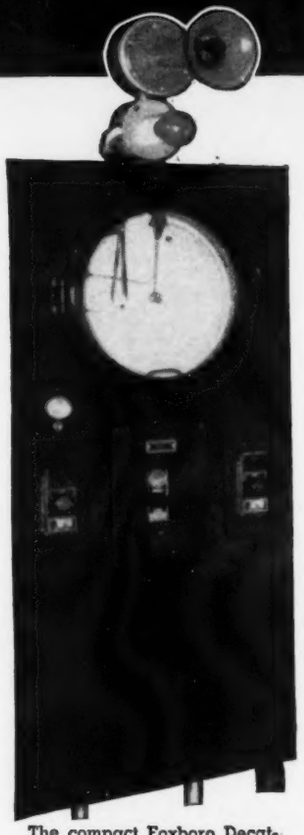
How Arlington Mills improve decating with automatic control

WEIGHT AND FINISH OF CLOTH MUCH MORE UNIFORM . . . NO OVER-STEAMING

In collaboration with the Research Staff of Arlington Mills, Foxboro engineers now have developed automatic decating control that produces better timing of operations at more efficient pressures than ever possible before. Besides making *the entire process automatic,* this new control system gives absolute uniformity of batches . . . steps up quality of cloth by eliminating variations in finish due to over-steaming or incomplete set of fibres.

The Foxboro Decating Controller performs the complete cycle automatically. This is how it operates: (1) operator pushes start button on panel; (2) controller pulls vacuum to set point; (3) steam valve opens; (4) when vacuum again reaches set point, vacuum valve closes and vacuum pump shuts off; (5) when steam pressure in chamber builds up to set point, timer #1 and vent valve start operating; (6) at end of timing period, steam flow reverses, timer #2 and vent valve start operating; (7) at end of second timing period, controller shuts off steam, opens large vent valve and sounds alarm. If desired, variations of this cycle can be arranged.

We'll be glad to discuss your requirements for automatic control on either Full or Semi-Decating operations. Ask your equipment supplier or write **The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U.S.A.**



The compact Foxboro Decating Control panel is factory assembled . . . requires only external connections.

RECORDING · CONTROLLING · INDICATING

FOXBORO Instruments

fresh appeal

IN SWEATERS

WITH FINE KNITTING

TORRINGTON NEEDLES

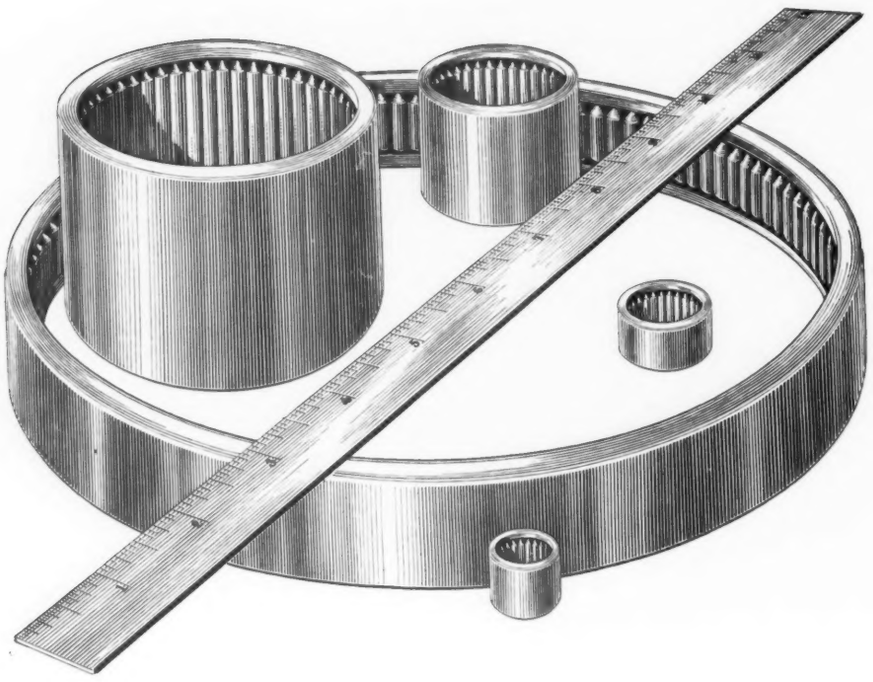
PERENNIALLY popular, sweaters are taking on fresh appeal with new and unusual designs enhanced by special effects and gala touches. Producing such articles calls for originality in design—and careful control over the quality of the knitting.

Torrington Needles can help you achieve and maintain the highest standards of knitting. Their smooth finish, fine temper and accurate overall dimensions are assured by special automatic machine methods of manufacture. If you have not tried Torringtons, try them now—for smooth, economical knitting machine operation.

TORRINGTON
Latch Needles

THE TORRINGTON COMPANY
Torrington, Conn., U. S. A. **Established 1866**

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. Boston • St. Louis • Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, Calif.



How Big Should a Needle Bearing Be?

. . . Big enough to carry the load. But whatever the actual size required—the Torrington Needle Bearing is the most *compact* anti-friction bearing unit ever devised.

In relation to its radial load capacity it has the smallest O.D. of *any* comparable anti-friction unit—an important design advantage from the standpoint of space-savings and weight reduction.

Experience in hundreds of different applications has demonstrated the practical advantages of this high unit load capacity in terms of design improvement, increased operating efficiency, and manufacturing economy.

Ask our engineering department to translate these Needle Bearing features in terms of *your own design requirements*...to show you how *small* a bearing can be to give you all these advantages. Your inquiry involves no obligation.

THE TORRINGTON COMPANY

TORRINGTON, CONNECTICUT SOUTH BEND 21, INDIANA

Offices in All Principal Cities

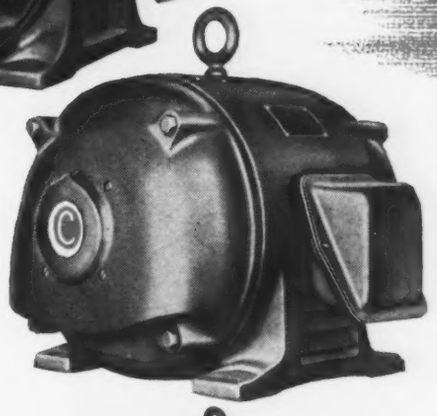
TORRINGTON NEEDLE BEARINGS

For Motor Protection That Keeps Machines Running

Use 1 of These 4 Century Motor Types

The four types of Century motors shown here are designed to resist the dangers of hazardous atmospheres as described below. As a result they keep machines operating, keep shutdowns to a minimum on such equipment as — pumps, blowers, cooling towers, processing machinery, dye house equipment, textile finishing machinery, dryers, and bleaching equipment.

Form J — open rated, general purpose motor — meets the needs for most installations where operating conditions are relatively clean and dry. The top half of the motor frame is closed to keep out falling solids or dripping liquids.



Splashproof motor — gives the necessary protection where plants must be washed down — keeps water out of the motor even when a hose is applied directly on the frame. It also provides protection against rain, snow, sleet, and ice for outdoor installations.

Totally Enclosed Fan Cooled motors — protect against dust, dirt, grit, abrasives, mist, or fog that would destroy the vital operating parts of the motor. The inner frame protecting the motor is sealed to keep out harmful matter.

Explosion Proof motors — protect against atmospheres charged with explosive dusts or gases. See specifications for specific kinds of explosive hazards.

For complete information on these and many other motor types to best meet your operating conditions, call in a Century engineer today. Century motors are built in sizes from 1/20 to 600 horsepower.

Century C MOTORS

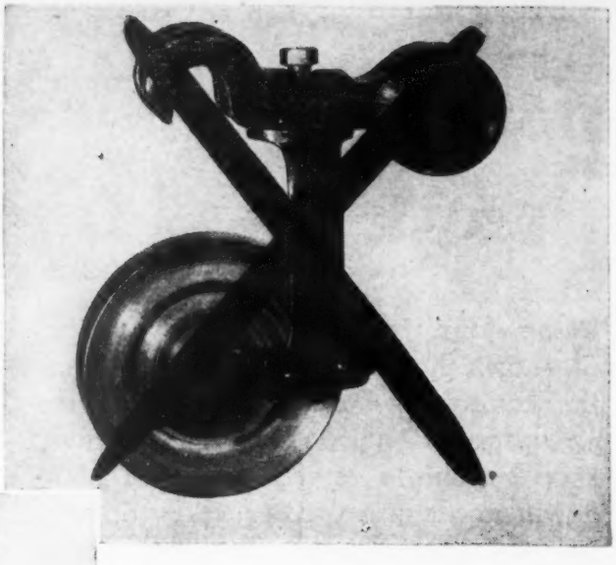
CENTURY ELECTRIC COMPANY
1806 Pine Street • St. Louis, 3 Mo.
Offices and Stock Points in Principal Cities

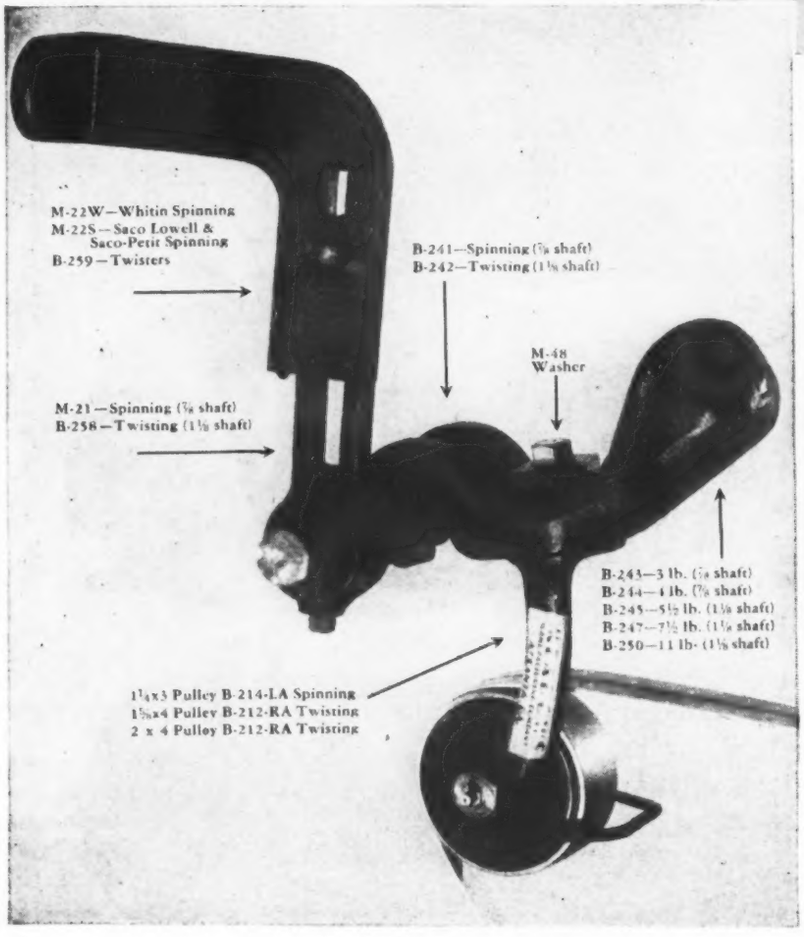
STOP THESE!

- *Stuck bearings on starting;*
- *Frequent readjustment;*
- *Frayed selvage on tapes;*
- *Higher power consumption;*
- *High cleaning cost;*
- *Unequal wear of wood bearings;*
- *Cut cylinders from off tapes;*
- *Tapes jump off when started;*
- *Risk of fire from jumped tapes;*

. . . by replacing your wood bearings and tin tension pulleys with

MEADOWS PRECISION BALL-BEARING TENSION PULLEYS





Many mills pay for them with labor and power savings, and increased production in one year's time.

- **More uniform spindle speeds**
- **Maintain permanent adjustment**
- **No stuck bearings**
- **Lubricate only twice a year (every 5000 hours)**
- **Eliminate tape jump-off due to stuck or worn bearings**

Different pulley sizes, brackets and weights to handle any frame from lightest spinning to heaviest cable twisting.

Our representatives will check your frames with Stroboscope and tension scales and make proper recommendation.

Also Four-Spindle Drive Band Tension Pulleys, Bands, Ball-Bearing Cylinder Units, Meadows Superior Saddles, Separator Shields, Worsted Roving Pulleys, Band-to-Tape Drive Conversions.

Representatives

JAMES P. COLEMAN,
P. O. Box 1351, Greenville, S. C.

WALTER S. COLEMAN,
P.O. Box 722, Salisbury, N. C.

MATTHEWS EQUIPMENT CO.,
93-A Broadway, Providence, R. I.

MEADOWS MANUFACTURING CO. · ATLANTA, GA.

Why boil a pistol?

The true test of quality in any product is a test that duplicates the conditions that will actually be encountered by that product in everyday use. Boiling, for example, is a good honest test for a teapot, but hardly for a pistol.

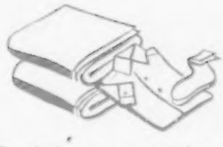
That's why Monsanto, in presenting its Resloom finish for women's dress fabrics, lays special stress on those Resloom improvements that give actual, practical benefits to be derived in daily service . . . not "pistol boiling" stunts. Here is what Resloom-treated fabrics offer:

1. **Increased crush resistance**
2. **Increased tensile strength**
3. **Stabilized fabric, shrink resistant**
4. **Longer wearing fabric**
5. **Improved washability**

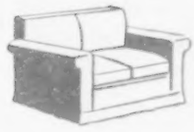
For other type materials, for other type service, Monsanto has other textile chemicals to impart other properties. There are no "do-all" treatments in the textile industry . . . or any place else. But these new characteristics imparted by Resloom to women's fine dress fabrics DO, it has been proved, give *lasting character* . . . the No. 1 demand of smart, active American women.

For the latest, complete data on Resloom for *your* operations . . . samples, and technical counsel, write, wire or phone today: MONSANTO CHEMICAL COMPANY, 140 Federal Street, Boston, Massachusetts.

MONSANTO CHEMICALS
SERVING INDUSTRY . . . WHICH SERVES MANKIND



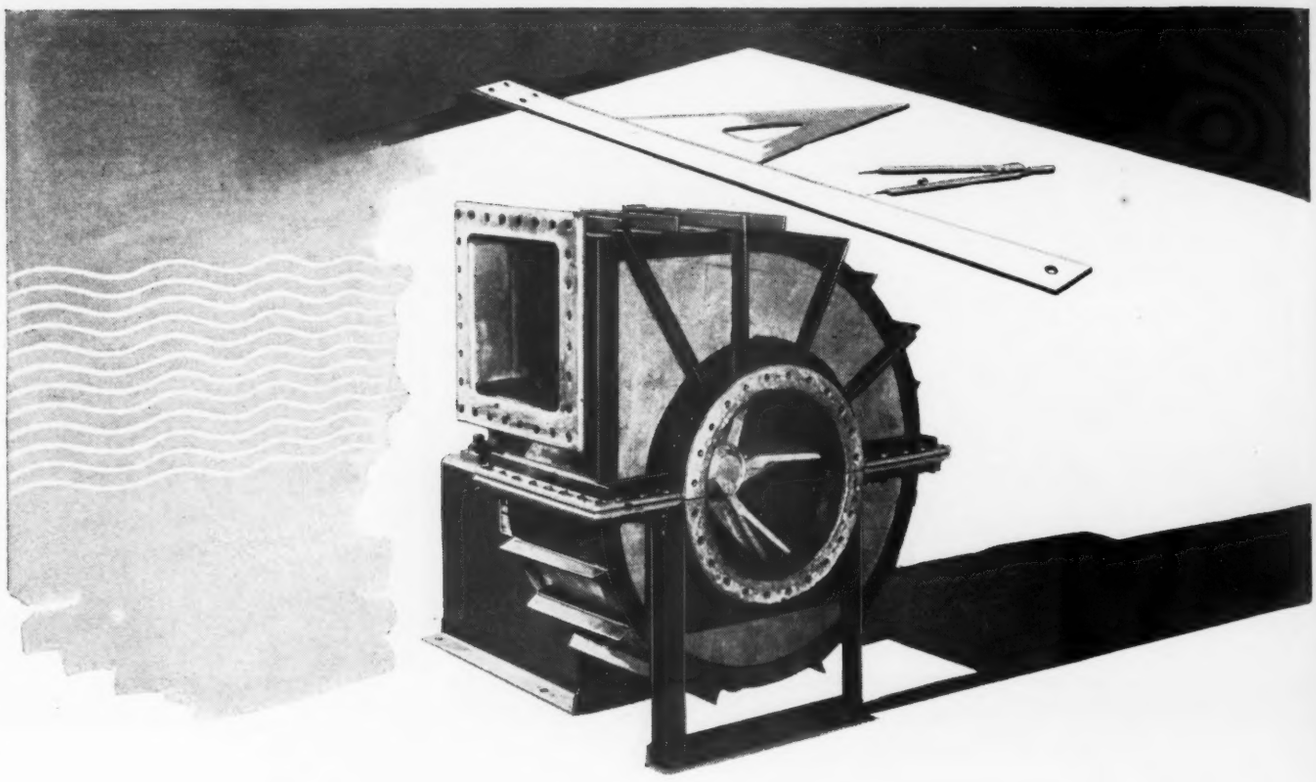
1. On their way — shrink resistant woolens in Resloom-treated shirts, blankets, sox.



2. Resloom adds beauty, crispness, permanent washability to glazed chintz.

3. Not yet, but later — Resloom-treated cottons for sheen, sturdiness, wrinkle resistance.

Resloom: Reg. U. S. Pat. Off.



Traffic cop for "ill winds"

Hot sulphuric acid fumes are "ill winds," hard to handle in your plant. But this lead-coated and lead-lined American Blower Corrosion Resisting Fan does the trick.

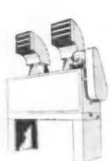
To collect or remove other corrosive gases, vapors, fumes and smoke, there are various other types of coated, covered, lined and alloy metal fans built by American Blower. They are serving efficiently today in a wide range of industries and processes.

Just put your problem up to the nearest American Blower branch office. It represents headquarters for corrosion-resisting fans, air handling and conditioning equipment of every type, dust collectors, and for the famous Gyrol Fluid Drives for the smooth transmission of power and stepless variable speed control. Phone or write today—ask for Descriptive Bulletin 1241.

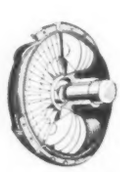
AMERICAN BLOWER

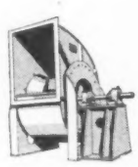
AMERICAN BLOWER CORPORATION
DETROIT 32, MICHIGAN
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

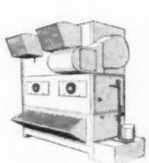
4 YEARS OF WAR-STIMULATED IMPROVEMENT—ON TOP OF 61 YEARS OF ENGINEERING DEVELOPMENT


Heating Equipment

Ventilating Equipment


Gyrol Fluid Drive

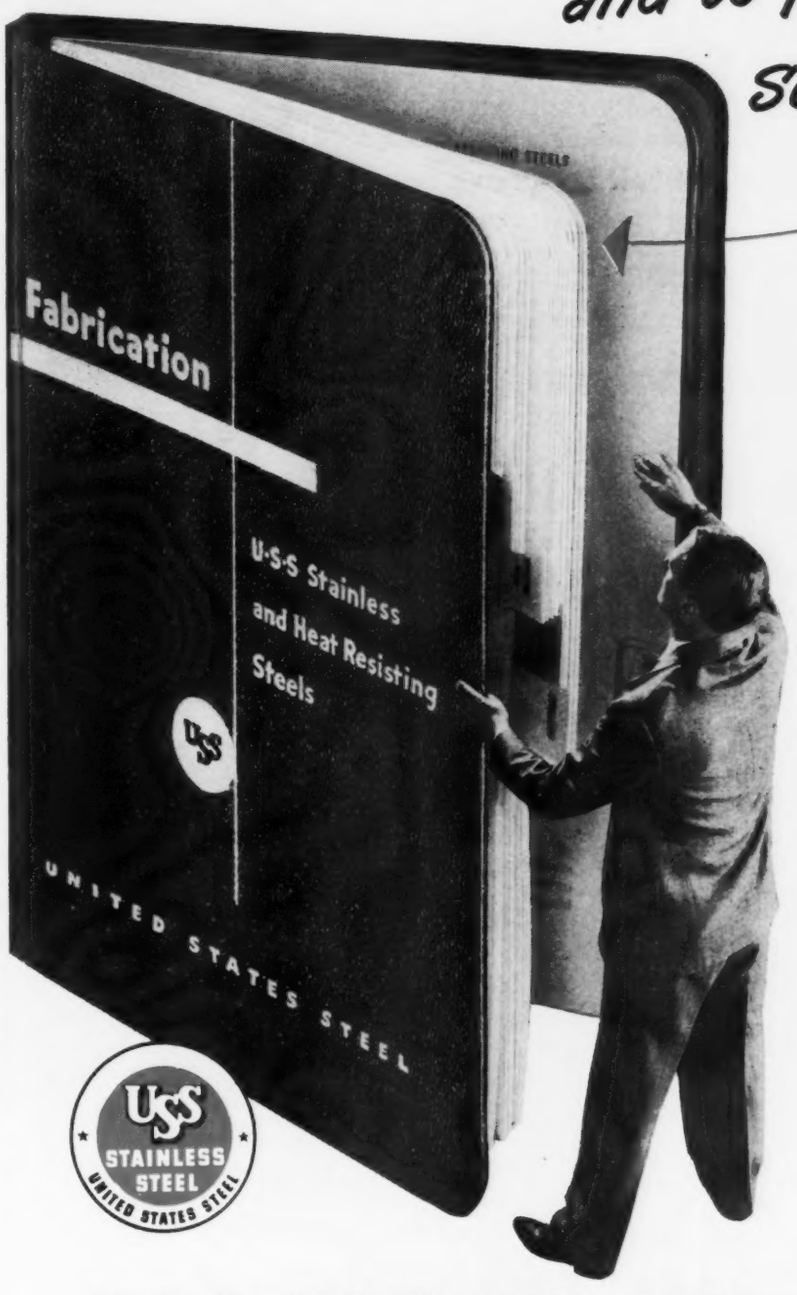

Industrial Fans


Air Conditioners

Dust Collectors

TO HELP YOU CHOOSE THE **RIGHT** STAINLESS STEEL FOR EACH TASK

and to fabricate it successfully



You'll spend less money and get better results with Stainless Steel equipment — whether you build it yourself or have it built outside—if you know what to expect from the various grades of Stainless available for application in textile mill machinery and appliances.

For it is well to remember that the name "Stainless Steel" covers a number of alloys that vary widely in their resistance to corrosion, whose strength under high temperatures is not the same, that have different hot and cold working properties, and are unlike in their machining characteristics. These steels also vary considerably in cost.

Here is where our engineers and stainless steel specialists fit into the picture. With years of experience in developing, testing and applying U·S·S Stainless Steels of all grades they are usually able to tell you exactly what particular type of Stainless will do the best, most economical job for you and what is the best fabricating practice to ensure success.

For ordinary applications, where no unusual conditions are involved, our new textbook, "The Fabrication of U·S·S Stainless and Heat Resisting Steels" can be used as a general guide to steel selection and fabricating procedure. This book, which will soon be off the press, is yours—free. *Reserve* your copy today by card or letter. It contains the latest, most comprehensive information on this important subject. Both users and makers of Stainless Steel equipment will find it practical and helpful.

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*
United States Steel Supply Company, Chicago, *Warehouse Distributors*
United States Steel Export Company, New York

UNITED STATES STEEL

THE
CONCAVE SIDE
A
GATES
PATENT
V-Belt in Sheave
Clearly, it's the sides of a V-Belt that do all the gripping on the pulley and get all the wear against the sheave-groove wall. That's why longer life for the sides means longer life for the belt!

That's Where V-Belts Get All the WEAR!

—and that's WHY the CONCAVE SIDE is *IMPORTANT!**

Examine a hundred—or a thousand—worn-out V-Belts and here is what you will find—

> *Almost without exception,* it is the sidewall of the belt that has worn out *first.* There is a perfectly natural reason for this—and every man who works around machinery knows it.

It is the *sidewall* of a V-Belt that has to *grip* the pulley and *drive* it. It's the sidewall that *transmits* to the pulley all the power the pulley ever receives. No other part of the belt gets anything like the *actual* wear the sidewall gets. Is it any wonder the sidewall of the *ordinary* V-Belt is the part that wears out first? And when you prolong the life of the sidewall you naturally prolong the life of the belt!

The simple diagrams on the right show clearly why the ordinary, *straight-sided* V-Belt gets *excessive* wear along the *middle* of the *sides.* They show also why the Patented Concave Side *greatly reduces* sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight sided V-Belts can *possibly* give.

Straight Sided V-Belt

FIG. 1

How Straight Sided V-Belt Bulges When Bending Around Its Pulley

FIG. 1A

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Gates V-Belt with Patented Concave Sidewall

FIG. 2

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley

FIG. 2A

No Bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!

*More Important NOW Than Ever Before.

Now that Gates Specialized Research has resulted in V-Belts having much stronger tension members—tension members of Rayon Cords and Flexible Steel Cables, among others—the sidewall of the belt is often called upon to transmit to the pulley much heavier loads. Naturally, with heavier loading on the sidewall, the life-prolonging Concave Side is more important today than ever before!

468

THE GATES RUBBER COMPANY
DENVER, U. S. A.
World's Largest Makers of V-Belts

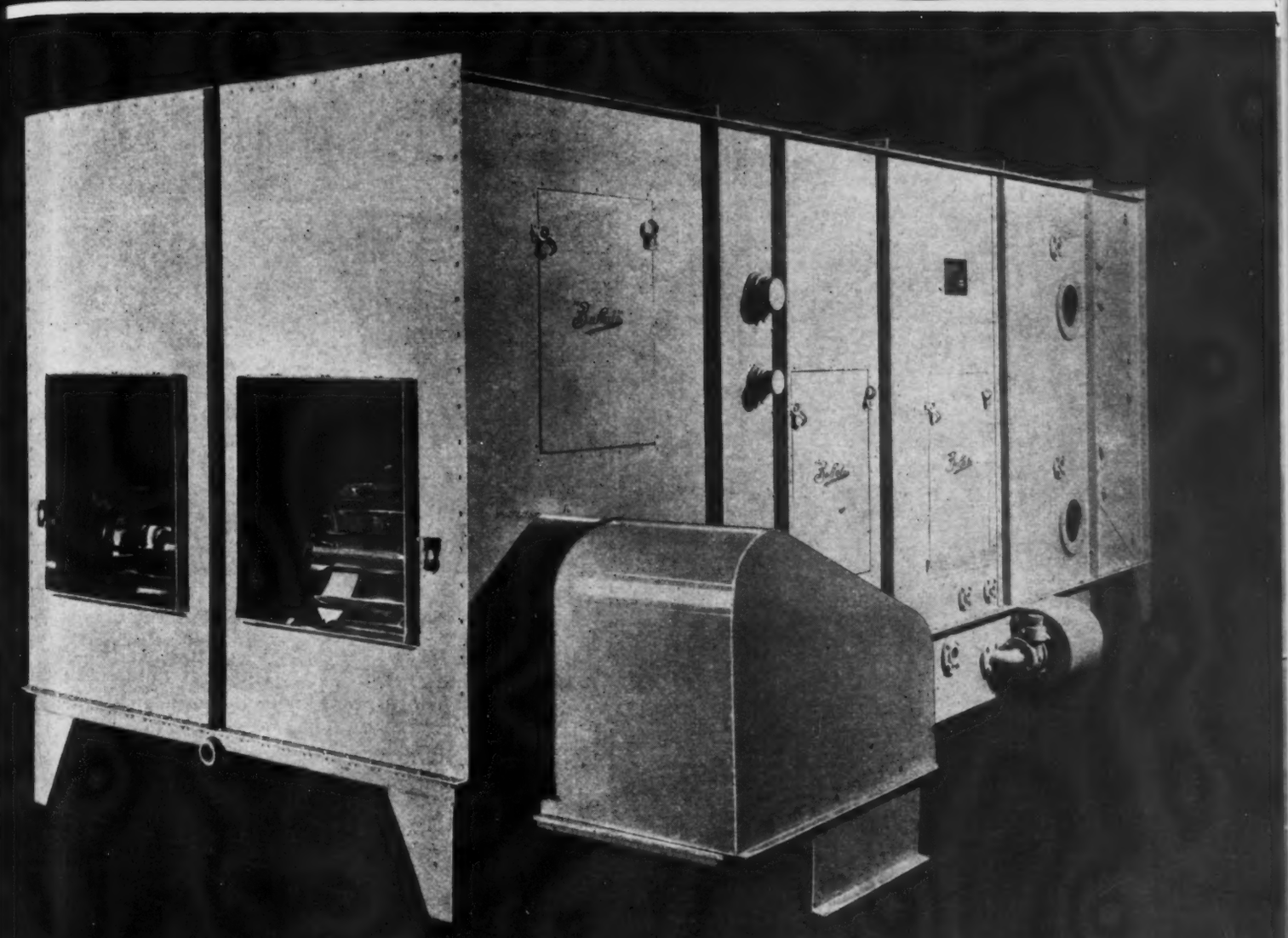
Gates

THE MARK OF SPECIALIZED RESEARCH

GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks **IN ALL INDUSTRIAL CENTERS** of the U. S. and 71 Foreign Countries

Comfortable, Clean Air AT LOW COST!



"Buffalo"

COMPLETE FACTS on economical, trouble-free air conditioning—plus dust removal—are in this bulletin No. 3457. Send for your copy!

WET GLASS CELL AIR WASHERS DO DOUBLE DUTY

Not only removing practically all traces of dust from your plant air, but providing healthful, comfortable air conditioning, Buffalo Wet Glass Cell Air Washers operate at remarkably low cost. Fan and pump are your only power requirements, and electrical hookup need not be expensive. Maintenance is simple. Too, you have a wide choice of capacities to handle any part of your plant.

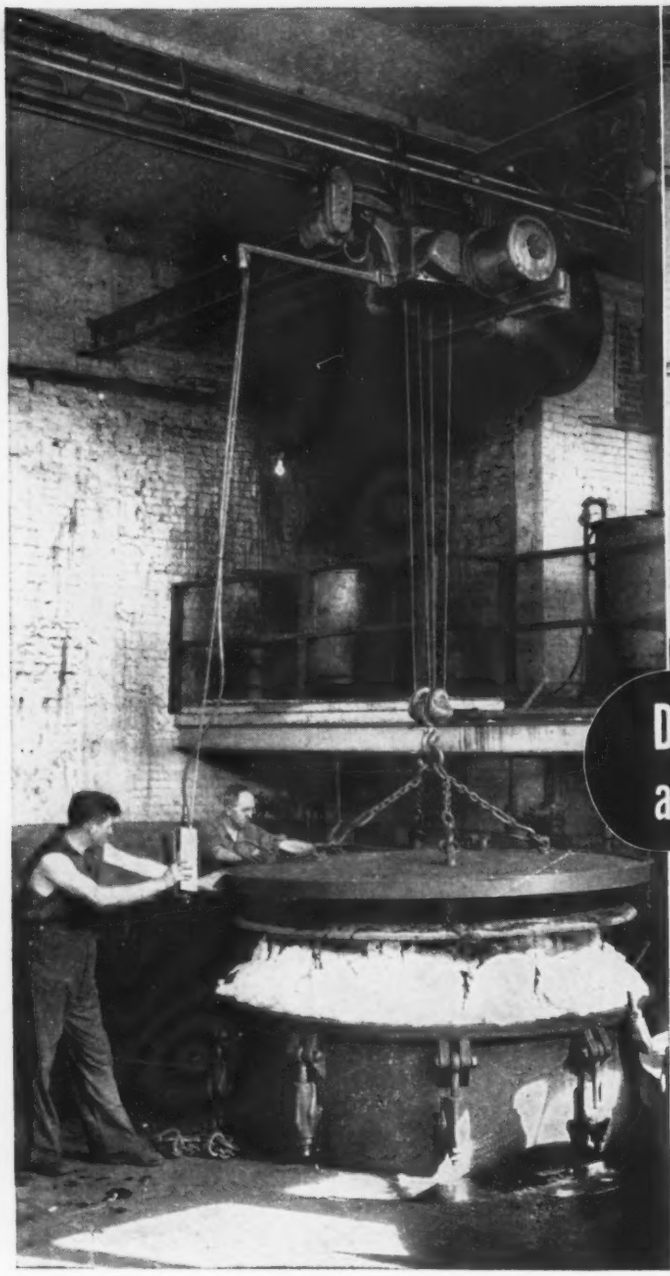
BUFFALO FORGE COMPANY

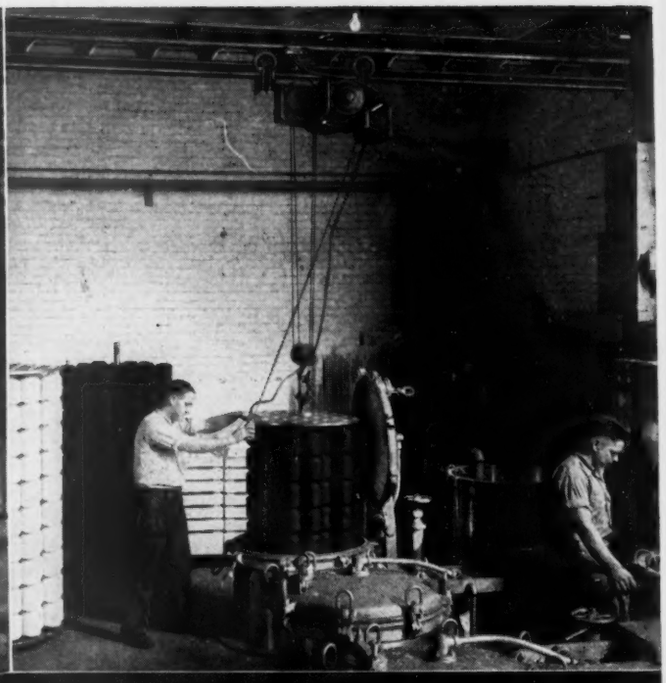
184 Mortimer St. **Buffalo, N. Y.**

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

"Buffalo"

WET GLASS CELL AIR WASHERS





DYEING OPERATIONS SPEEDED at STATESVILLE COTTON MILLS

Both the Raw Stock and Package Dyeing Departments of Statesville Cotton Mills, Statesville, N. C., are served by Cleveland Tramrail cranes. The crane used for handling raw stock is three tons capacity and completely motorized, enabling the operator to pick-up, deliver, and set down a load simply by pushing buttons in the pendant push button station.

A one-ton hand-propelled crane with electric hoist is provided for the Package Dyeing Department. However, the advantages of a completely motorized crane have become so apparent because of the success with the one used for raw stock dyeing, that it is planned to motorize the carrier and bridge of the package dyeing crane, so that it, too, will be fully power driven.

The Cleveland Tramrail overhead equipment has proven a big aid in stepping up production in the dyeing rooms because kier shutdown periods have been shortened due to faster handling of kier covers, and of charges in and out of kiers. The workmen like Cleveland Tramrail because it eases their labor and promotes safety.

GET THIS BOOK!

BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1185 EAST 283rd ST. WICKLIFFE, OHIO.

CLEVELAND TRAMRAIL

OVERHEAD MATERIALS HANDLING EQUIPMENT

"A tool is but the extension of a man's hand, and a machine is but a complex tool. And he that invents a machine augments the power of a man and the well-being of mankind."

Modern machines have made Americans the world's most efficient workers, and with every increase in efficiency, the worker has increased his share of the good things of life and the time in which to enjoy them. In Full-Fashioned Knitting, the READING Machine is the machine that insures the high standard of living of the thousands of skilled workers in the industry.

TEXTILE MACHINE WORKS · READING, PA.

Out of This World . . . Flawlessly sheer stockings glorifying lovely legs are a sight of breathless beauty . . . beauty out of this world. It takes the finest needles to produce even textured stocking fabrics. That's why TMW Needles are Fixture Drawn*—an exclusive TMW patented process which holds needles straight and true. Let us put your needle bars in shape for faster, more accurate, more profitable knitting.

* Reg. U. S. Pat. Off.

TEXTILE MACHINE WORKS • READING, PA.

thermoplasticity
dielectric strength
mildew resistance

THESE are inherent characteristics of Eastman acetate rayon—Koda continuous-filament yarn and Teca crimped staple. They are properties which have proved their importance in specialized wartime applications—are now setting this fiber apart for a wide range of industrial uses.

Where production or performance of textiles depends on heat-sealing qualities, dielectric strength, or resistance to mildew attack, Eastman acetate rayon may be the answer. For further information or technical advice, consult A. M. Tenney Associates, Inc., 10 East 40th Street, New York 16, sales representatives for Tennessee Eastman Corporation (Subsidiary of the Eastman Kodak Company), Kingsport, Tennessee.

Eastman Acetate Rayon

Service
IS BACK AGAIN

MACHINING equipment for insulating parts of all grades and types—which was greatly expanded to take care of war requirements—is now at the service of Formica customers, and the service is as prompt and complete as it ever was.

New and modern tools have made quantity production of accurately machined parts easier than it used to be. Workers with years of experience on just one material—who know all the tricks of grinding the tools, speeds, feeds and other details that mean so much to quick satisfactory production, man this equipment.

You can add the Formica machine shop to your production equipment by sending us your blue prints for quotations on your requirements. Give us a detailed explanation of the functions of the part and we will see that you get the right grade for efficiency and economy.

THE FORMICA INSULATION CO.

4668 SPRING GROVE AVE. CINCINNATI 32, OHIO

FORMICA

Bunting Bronze Bearings and Bars are quality bearing bronze in its most readily usable form. A wide variety of sizes, available from Bunting Stock-Carrying Distributors everywhere, assures you of what you need, when you need it. The leading Distributor in your area almost certainly stocks Bunting Bronze. The Bunting Brass & Bronze Co., Toledo 9, Ohio. Branches in Principal Cities.

BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

45

Bunting

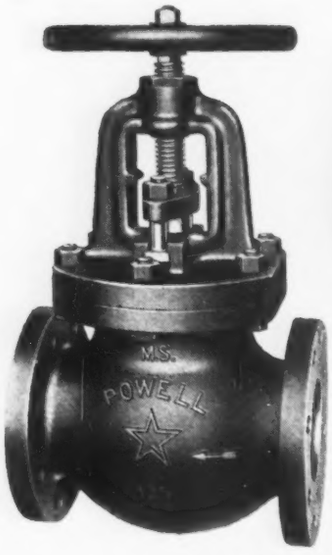
Let POWELL guide your way to assured, unfailing flow control

Through the ages, men on land and sea have been guided to their destination by the *North Star*. It is easy to find because it is almost in line with the two stars on the right end of the "Big Dipper."

Many years ago Powell patented the famous "Star" Regrinding Globe Valve. Today, the *Powell Star*, backed by 100 years of accumulated technical knowledge and manufacturing skills, is serving Industry as a guide to assured, unfailing flow control. The Complete Powell Line includes valves for every known industrial service and as new demands arise Powell Engineers will design valves to meet them.

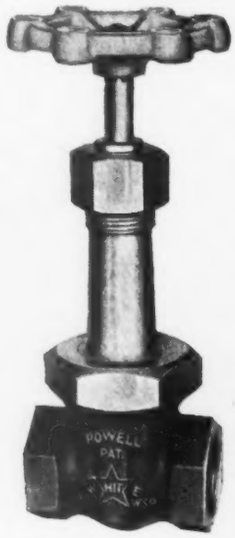
Catalogs gladly furnished on request. Kindly specify whether you are interested in Bronze, Iron, Cast Steel, or Corrosion Resistant Valves.

Large size 150-pound Stainless Steel "Y" Valve with flanged ends, bolted flanged yoke-bonnet and outside screw rising stem. Sizes 2½" to 12", inclusive.

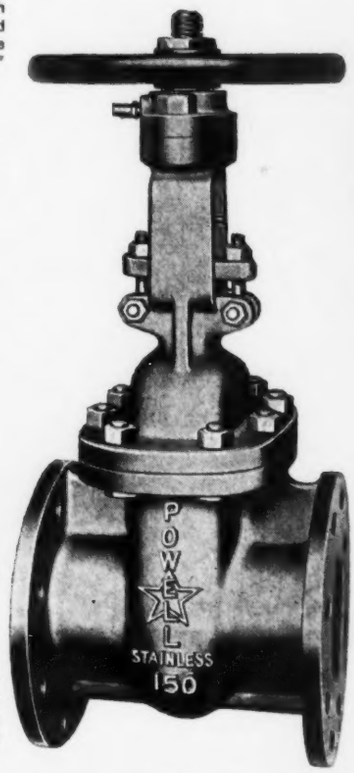


Large Iron Body Bronze Mounted Globe Valve for 125 pounds W. S. P. Has outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc. Also made in All Iron for process lines.

125-pound Iron Body Bronze Mounted Swing Check Valve with bolted flanged cap and regrindable, renewable bronze seat and disc. Also made in All Iron.



200-pound Bronze "White Star" Gate Valve with inside screw rising stem, union bonnet and renewable, wear-resisting "Powellium" nickel-bronze disc.



Standard 150-pound Stainless Steel Gate Valve with flanged ends, bolted flanged yoke-bonnet, outside screw rising stem and taper wedge solid disc. Sizes 2½" to 8", inclusive.

The Wm. Powell Co., Cincinnati 22, Ohio

DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

POWELL VALVES

In the good old summer time —

For millions of Americans, young and old, sunny skies and balmy weather are synonymous with the pleasures of swimming . . . the relaxation of a cooling dip, or the exhilaration of a fast crawl.

Columbia products help to keep swimming the grand care-free recreation it is. Pittchlor* rids captive water of dangerous bacteria, keeps locker rooms, showers and other facilities free of infection . . . just as Pittchlor and Columbia Liquid Chlorine are used to assure pure drinking water for millions *every day.*

*PITTCHLOR—a 70%, high-test calcium hypochlorite of good stability in the form of dry, white granules—is a convenient way to put chlorine to work for disinfecting, deodorizing, sterilizing and bleaching. Used by food plants, dairies, laundries, sewage plants, etc., or wherever the oxidizing power of chlorine is desired.

COLUMBIA CHEMICALS

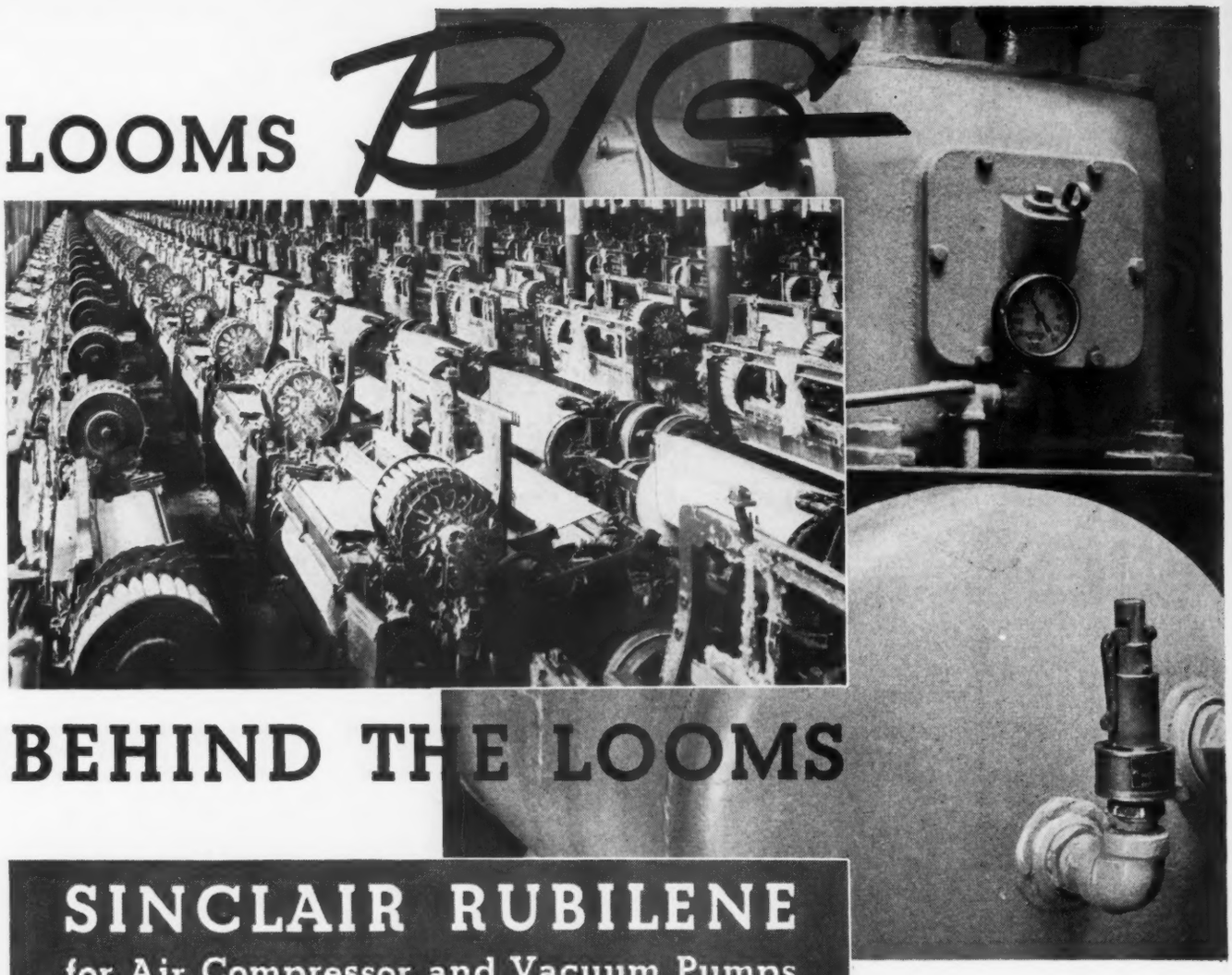
PITTSBURGH PLATE GLASS COMPANY
COLUMBIA CHEMICAL DIVISION

FIFTH AVENUE AT BELLEFIELD, PITTSBURGH 13, PENNA. · Chicago · Boston · St Louis
Pittsburgh · New York · Cincinnati · Cleveland · Philadelphia · Minneapolis · Charlotte · San Francisco

COLUMBIA ESSENTIAL INDUSTRIAL CHEMICALS

Soda Ash · Caustic Soda · Liquid Chlorine · Sodium Bicarbonate · Pittchlor · Silene EF (Hydrated Calcium Silicate) · Calcium Chloride · Soda Briquettes (Iron Desulphurizer) · Modified Sodas · Caustic Ash · Phosflake (Bottle Washer) · Calcene T (Precipitated Calcium Carbonate)

LOOMS BIG



BEHIND THE LOOMS

SINCLAIR RUBILENE
for Air Compressor and Vacuum Pumps

When "work" runs bad—when production is cut because of "pick-outs" and the percent of "seconds" is on the increase, look behind the looms. Lack of air for "blow-down" between beam doffs and during "scheduled cleaning" periods because of air compressor or vacuum pump failure often lowers quality and production.

Keep air compressors and pumps in top operating condition by making sure lubrication is correct. Use Sinclair RUBILENE OIL for air compressors and vacuum pumps.

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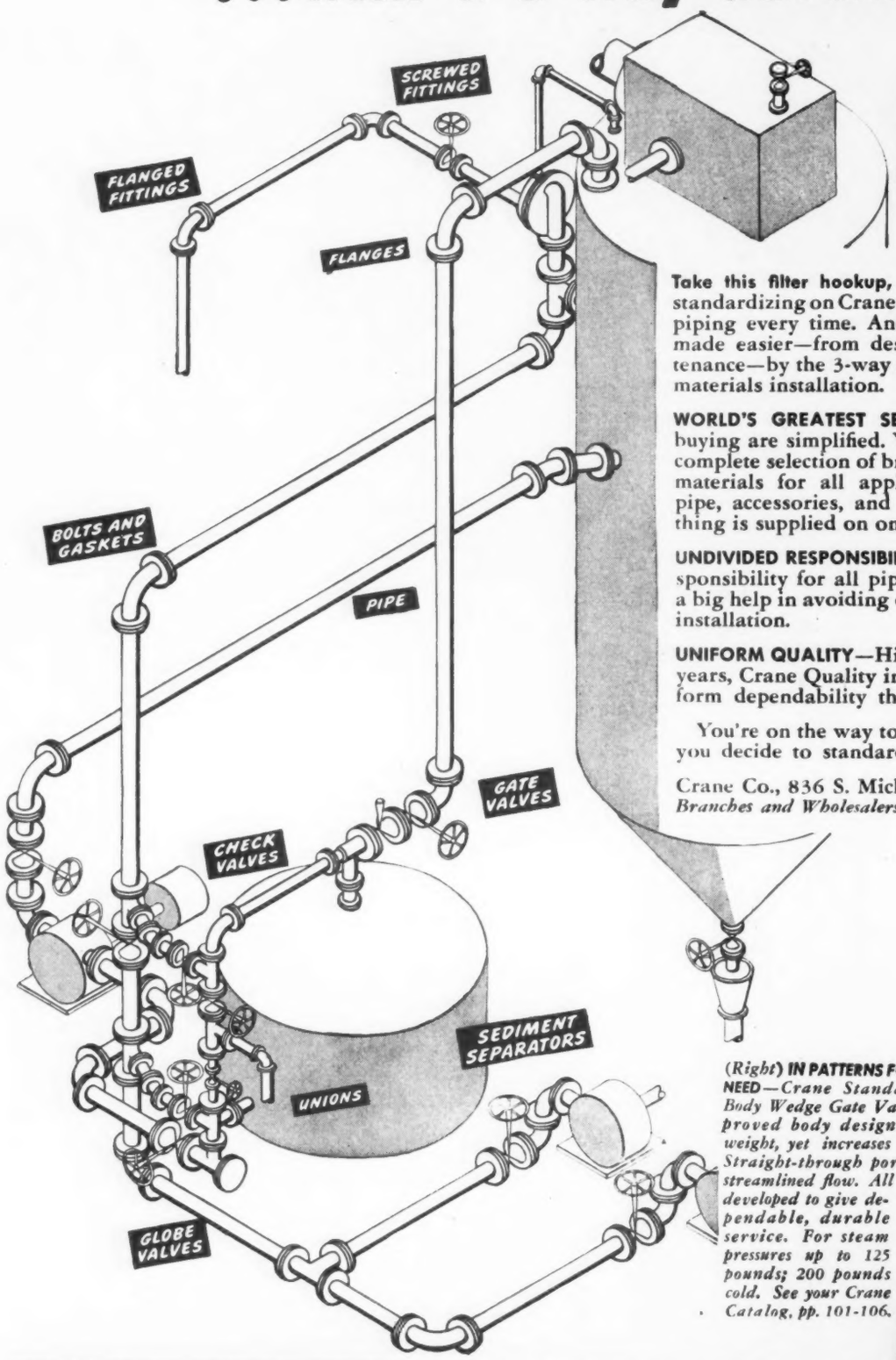

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TEXTILE WORLD

AUGUST, 1946 : VOL. 96 : NO. 8

La Magdalena, textile mill at Contreras, near Mexico City. *Cia. Mexicana Aerofoto*

MEXICAN MILLS Hesitate to Go Modern

HIGHLIGHTS: *Wartime needs and postwar shortages boom Mexican textile industry despite antiquated machinery and labor restrictions—Local mills normally have difficulty competing with imports—Government and workers must cooperate if mills are to continue to run—Rayon division is one bright spot.*

By ERNEST HEDIGER, *McGraw-Hill World News*

ALTHOUGH FREQUENTLY considered primarily a mining country, Mexico is in fact essentially an agricultural country, and, at that, a country of primitive agriculture. Out of its 20,000,000 inhabitants, only 50,000 work in and around the mines, while at least 10,000,000 are peasants with an incredibly low standard of life. With few exceptions, the population of rural Mexico is composed of Indians and Mestizos (halfbreeds) who live practically aloof from our modern civilization, and whose needs for manufactured goods are infinitesimal. Living in thatched, self-made huts wiith barren earth floors, sleeping on reed mats, these Mexicans buy practically nothing, pay no taxes, and have hardly any ambitions. On their small patch of land—for most of them a legacy of the revolutions of 1910 to 1917—they cultivate their staff of life, corn. When the Mexican peasant after having worked hard on his corn patch for six or eight weeks a year planting his corn, taking care of it and harvesting it, sees his corn-bin full, he feels secure until the next crop, and has only one desire: to rest and enjoy doing nothing. Freedom, to him, is the possibility of living leisurely for the largest part of the year. He prefers to live in a hut, suffer from cold and his light cotton pants, sleep on the ground, and eat his monotonous corn-meal *tortillas* all year round rather than work six days a week from January to December, and be comfortably dressed and housed.

The foregoing state of affairs played, and still plays, an important part in the slow development of Mexico's industries. As long as the Mexican poor-peasant class represents the great majority of the population, the domestic market for manufactured goods will remain much smaller than the size and the population of the country seem to justify. Nearly three times the size of Texas, Mexico's total purchasing power is much smaller

than that of a large city of the United States such as Chicago or New York.

Specialization of Mexico's industrial plants is well-nigh impossible. Mass consumption comparable to that existing in highly industrialized countries does not exist in Mexico.

Nowhere, perhaps, is diversification so noticeable as in the Mexican textile industry, where it is not at all uncommon to find a small mill of, say, 4,000 spindles producing no less than 1,500 different types of finished goods. This fact, further aggravated by the circumstance that most textile mills were set up during the last century as small family enterprises with no coordination among them, in itself already explains why Mexican textile goods are considerably more expensive than those, for instance, of American mills.

INDUSTRY TODAY. Mexico's textile industry today employs some 70,000 workers and produces annually some $15,000,000 worth of goods, representing about 32% of the country's total manufacturing output. It ranks second in the industries of the country, coming immediately after mining (whose yearly output represents a value of some $140,000,000, but employs a lesser number of people than the textile industry). Cotton-cloth making, with some 50,000 workers, occupies the first place in the industry. Its importance can be seen in Tables I and II.

For comparison with the cotton division of the industry, the woolen division in 1945 totalled some 70,000 spindles and 2,000 looms, and used about 5,000 workers.

Manufacturing of cotton yarn and fabrics, largely started by French and Spanish capital during the second half of the last century, is a branch of the Mexican textile industry which employs nearly exclusively domestic fiber and whose production is almost entirely consumed at home, at least in normal times.

Mexico grows more than enough cotton for its own needs, and only small quantities of extra-long-staple cotton have to be imported for special uses.

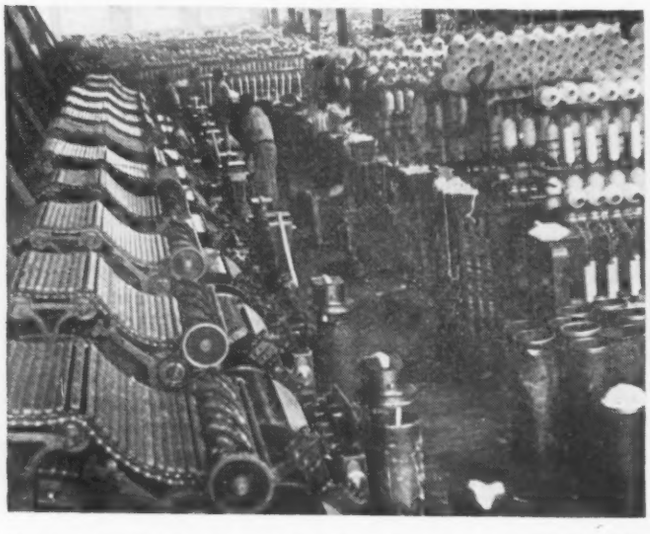
Until 1939, the Mexican cotton industry remained, for all practical purposes, a purely domestic industry, with no outlets abroad. In Mexico itself, foreign cotton goods were preferred by the moneyed classes. Domestic goods, generally of lower quality, were purchased mainly by the poorer classes. As a rule, Mexico's textile mills worked only one 8-hr. shift per day. Machinery, most of which was English made and installed between 1898 and 1910 to the extent of some 75%, is now largely antiquated, at least if compared to the automatic equipment at present being used in the United States. Due to the difficult situation in which the industry found itself in prewar times on account of stiff foreign competition, operators were reluctant to invest large sums for the renewal of their machinery.

This situation began to improve somewhat from 1939 on, when preparation for war in important industrial countries started to lessen their competitive power on the world market. From then on, Mexico started to export cotton goods in increasing quantities: 3,500,000 pesos worth in 1939; 7,400,000 pesos in 1940; and 13,500,000 pesos in 1941. But it was mainly America's entry into the war that created a real boom for Mexico's textile industry.

WAR EFFECTS. With America in the war, imports of cotton textiles into Mexico stopped almost completely. The stocks of cotton goods which had been imported during the prewar years were soon gone, and intensification of the domestic output became an absolute necessity if the constantly increasing demand was to be at least partly satisfied. Cotton mills began to work in two, and even in three, shifts whenever possible. The volume index of production (1939 = 100) grew rapidly to 122.7 for 1941, 131.4 for 1942, 148.0 for 1943, 151.1 for 1944, and 165.9 for 1945 (see line chart). It would undoubtedly have gone much higher if the condition of the existing machinery had been better, and if more motive power had been available.

Though the greater wartime demand in Mexico and in neighboring countries of Latin America stimulated the output of the Mexican mills, little could be done to improve the equipment as long as the war was on. American loom manufacturers had converted their plants to the production of war goods, and even the export of used looms was controlled by the U. S. government. There were times when the Mexican mills were not in a position to obtain all the spare parts needed to keep their looms in working order. In many a case, in spite of the considerable demand, plants had to work only two shifts, in order to allow for the repairs which were constantly needed if the tired looms were to function at all.

Disappearance of competition on the part of the large-scale producers—United States, England, Japan—offered Mexico a golden opportunity to export its cotton fabrics at top prices. Due to the great hunger for cotton goods created by the war, these found a ready market in Central and South America, and even in England and in the United States.



Cards and roving frames in La Angelica mill, one of several in Puebla, state of Puebla, Mexico. Photo by Mayo

General view of part of the weaver room of the La Esperanza mill in Puebla. Photo by Mayo

TABLE I—CHARACTERISTICS OF MEXICAN TEXTILE INDUSTRY

(October 1945)

	Cotton	Wool	Silk and Rayon
Man-hours worked	78,686	8,764	24,113
Percent of capacity	90%	90%	82%
Number of workers	54,636	7,637	3,212
Number of other employees	2,161	423	306
Total expenditures for production (pesos)	38,982,016	6,365,928	3,497,126
Cost of raw materials (pesos)	19,768,157	3,668,238	1,994,682
Total of wages paid	12,975,708	1,714,718	923,577
Total of salaries paid	1,270,633	194,477	160,936
Total value of production (pesos)	50,359,911	7,858,082	4,040,877

Chief items produced:		Kilograms
Cotton:	Manta (white cloth)	1,210,990
	Percale	929,110
	Drill	613,829
Wool:	Cassimere	204,527
	Worsted	116,167
Rayon:	Rayon	175,522
	Cotton-rayon	12,762

Source: Revised Mensual de Estadistica, Ministry of National Economy, Mexico D.F., May 1946.

TABLE II. MEXICAN COTTON DIVISION

Year	No. of spindles	No. of looms	No. of workers
1844	102,000	2,600	.....
1862	133,000	6,300	.....
1900	500,000	15,000	22,000
1940	850,000	32,000	44,100
1945	950,000	34,000	53,000

PRODUCTION

1939	335,894,000 meters
1940	352,706,000 "
1941	394,184,000 "
1942	421,419,000 "
1943	512,837,710 "
1944	519,347,000 "

EXPORTS

	Meters	Total
1943		
Finished fabrics	56,611,506	
Manta* and crude fabrics	20,254,540	76,866,046
1944		
Finished fabrics	61,815,468	
Manta and crude fabrics	12,126,356	73,941,814
1945		
Finished fabrics	98,633,374	
Manta and crude fabrics	39,696,163	
Hand-blocked fabrics	455,561	138,785,098

* *Rough cotton cloth used by the Mexican peasants to make their clothes.*

TABLE III. MEXICAN CUSTOMS PROTECTION

The Mexican textile industry enjoys a rather high customs protection for its finished goods. For cotton goods, for instance, this protection represents some 21% of the value for yarn, 31% for cotton fabrics, and 53% for ready-made cotton dresses. Here are a few typical rates:

Cotton cloth up to 50 grams per sq. m.	10.10 pesos per kilogr.
Cotton cloth 250 to 1200 grams per sq. m.	3.40 pesos per kilogr.
Men's cotton shirts and trousers	14.70 pesos per kilogr.
Ready-made cotton dresses	23.00–35.00 pesos per kilogr.
Cotton velvet	4.90 to 6.00 pesos per kilogr.

(In 1945, the latter country purchased over $22,000,000 worth of Mexican cotton fabrics out of a total Mexican textile export of $35,000,000 during that year, not including over $200,000 worth of ready-made cotton dresses out of a total export of such goods valued at $1,200,000.)

PROSPECTS. The prosperity brought by the war to Mexico still lingers. As yet, no appreciable foreign competition in cotton goods is noticeable, either in Mexico or in the Latin-American markets served by Mexico since the war. Nevertheless, many operators who are convinced that, given normal peacetime conditions, Mexico could not compete with better-equipped countries are beginning to worry about the future.

For the present, the needs of a war-ridden world in textiles are so great that foreign competition in Mexico and the other Latin-American republics appears highly improbable for some time to come. But the Mexican manufacturers know that at some time or other in the future, when large-scale rehabilitation purchases will come to their end, the modern, highly efficient mills of the United States and those somewhat less modern, but still far superior, of England will try to reconquer their world markets and to recuperate not only their lost prewar Latin-American customers, but also to sell to Mexico itself, at prices against which the relatively inefficient Mexican mills could not possibly compete. According to a study recently made by the *Compañia Industrial de Orizaba*, one of the largest Mexican textile corporations, productivity per man-hour in similar standard cotton-cloth weaving processes is 32.4 meters in the United States, 12.8 meters in England, and 9.8 meters in Mexico.

During the last few months, therefore, efforts have been made on the part of some Mexican manufacturers either to set up completely new plants, or to improve existing ones considerably. A large, new cotton-textile mill which, with 200 looms, 32 cards, and 22 spinning frames, is expected to produce 44,000 yds. of sheeting and 5,000 doz. towels a year, is nearing completion at Hermosillo, in the northern state of Sonora, and should largely contribute to cover the needs of that part of the country when it starts production toward the end of this year.

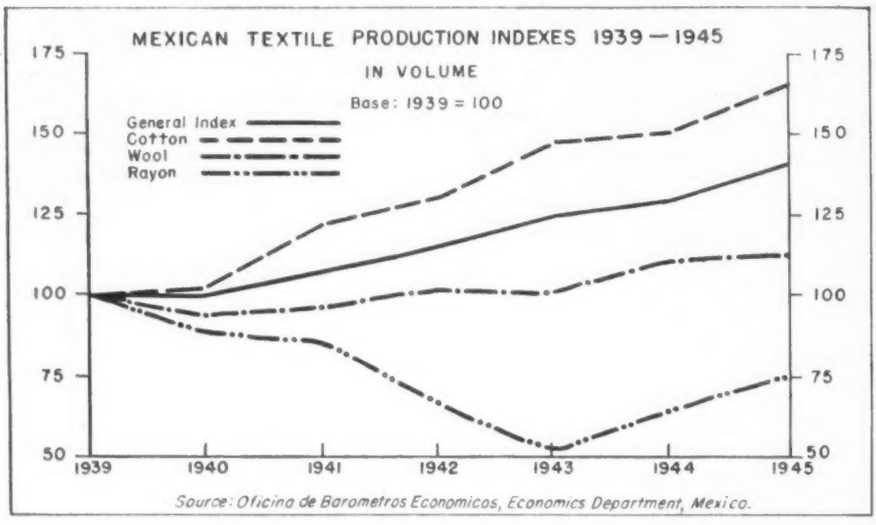
In general, however, the purchase of really modern machinery from abroad is still extremely difficult. So far, only semi-modern looms and other textile equipment can be obtained; and although these machines are much better than most of those at present in use in the country, they are nevertheless inferior to

the latest models at present manufactured in the United States and elsewhere. As long as it is impossible to get the latest types (and U. S. manufacturers of textile machinery have pent-up orders for several years to come), the Mexican operators believe they will not be in a position to compete with better-equipped foreign mills when normal conditions are finally reestablished throughout the world.

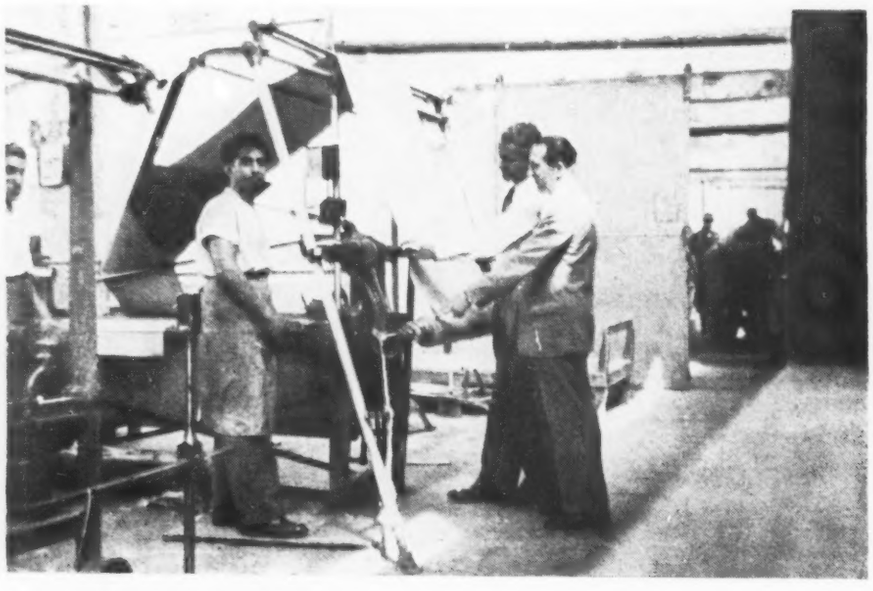
WOOL. Second in importance within the textile industry of Mexico, the wool yarn and cloth division is however of much lesser magnitude than the cotton branch. Its total production represents, in volume, less than one-sixth of that of the cotton mills. As can be seen from the chart, the wool-textile division also progressed more slowly than the cotton division during the war years, a fact generally attributed to the insufficient supply of raw material during the war.

Although Mexico produces a certain amount of sheep's wool, the domestic wool (on account of climatic conditions, type of sheep bred in the country, and other factors) is too short to be used alone for the manufacture of first-class wool cloth. Mexico, therefore, normally imports most of its raw wool from abroad, mainly Australia and Argentina. These imports were well-nigh impossible during the war.

A substantial part of the Mexican wool-cloth production goes to Latin-American countries, where Mexican cassimeres are now much in demand. The existing mills are working at top capacity, but only through the setting up of new looms could exports be increased substantially.



Source: Oficina de Barometros Economicos, Economics Department, Mexico.



Ernest Hediger (extreme right), chief of the McGraw-Hill World News bureau in Mexico City, examines cloth in a Mexican textile mill.

As far as the mechanical equipment is concerned, the situation is a little better in the wool than in the cotton division, at least in general terms, as most of the machinery was installed during the first part of the present century, and is therefore in better condition; nevertheless, much of the equipment would have to be modernized if Mexico were, in the future, to keep up with the more advanced countries in this field.

SYNTHETICS. In contrast with the cotton and wool branches, the rayon division of Mexico is new and modern. Less than 20 years old, it was able from the start to build modern plants and equip them with up-to-date machinery, and also to offer better working conditions and wages to its workers. (In 1939, for instance, only the iron-and-steel industry paid higher wages than the rayon division.)

Working exclusively with imported material, this division was more affected by the war than any other in the textile field. The rayon yarn stocked in Mexico before the emergency soon came to an end; and shifts had to be reduced first to two per day, then one; and in some cases, plants worked only three days per week. The wartime quota of rayon yarn granted to Mexico by the United States prevented a complete closing down of the Mexican mills, but was too small to keep the plants working on a normal basis. On the other hand, demand grew much above prewar levels. Prices soared sky-high, pushed upward by scarcity; black-market speculation; lack of efficient price control; and, last but not least, by "irregularities" (to employ a mild word) in the distribution of the quota. From 1939 to 1943, the volume index of production fell from 100 to 51.5, while prices increased three- to four-fold. From the latter part of 1945 on, however, thanks to larger imports of rayon yarn, the situation gradually improved; and the volume produced now tends to reach and even pass that of the prewar period.

In the future, Mexico will be less dependent on foreign rayon yarns. Two large rayon yarn plants, set up with the help of American capital and know-how (*Celanese de México* and *Viscosa de México*), are at present being built. In time, they will be able to supply most of the country's needs.

There is, to date, no production of nylon yarn in Mexico. The country is, therefore, entirely dependent on imports to cover its needs for nylon goods.

LABOR PROBLEMS. The sudden prosperity brought to the Mexican textile industry by the war increased the labor

(*Continued on page 192*)

ONE TEXTILE INDUSTRY—
Theme of Seminar at Hershey

HIGHLIGHTS: *Fiber blends are blending the industry itself, says Schlesinger —Textile men must think first of the fabric properties wanted, rather than of the fibers to be used, says Col. Kennedy—Fortisan or Fiber B in cotton shirting gives dimensional stability, Taber reports—Other discussion topics include ramie, gas fading on acetates, continuous peroxide bleaching, vat dyeing, pigment dyeing, garment manufacture, labor relations, and advertising.*

THAT THE TEXTILE INDUSTRY is becoming one industry, as against a group of separate industries, each confined to the use of a distinctly different fiber, was the chief theme of the first National Textile Seminar, held under the auspices of the Philadelphia Textile Institute, at Hershey, Pa., July 8 to 12. This was the keynote struck by M. Earl Heard, of West Point Mfg. Co., Shawmut, Ala., general chairman, in his opening remarks. The thought was well sustained by the representatives of the synthetic-fiber producers, particularly during a discussion on blends led by Robert A. Smith, of American Viscose Corp.

The theme was not too heartily endorsed by all speakers, however. Hugh M. Comer, president of Avondale Mills, who led the session on natural fibers, supported the contention of Francis L. Gerdes, U. S. Dep't. of Agriculture, one of the speakers, that an adequate number of trained young men devoting their time to research could help to sustain the present dominance of the cotton fiber indefinitely. The cotton economics problem, they contended, will be solved by mechanized and cooperative farming, employing the latest mechanical pickers which lower the cotton only one or two grades, as against the former three or four grades [T.W., July, 1945]. Dr. Milton Harris, of Milton Harris Associates, Washington, agreed that "an adequate marshalling of brains" would produce a permanent place for the natural fiber. Cleaning of cotton "between gin saws and bale" is a beneficial development which is definitely coming, Mr. Comer declared [T.W., Nov., 1945].

The one-industry idea was not shared, either, by Ferdinand S. Kaiser, of Forstmann Woolen Co., who stated that the superior properties of wool will continue to maintain the present position of that fiber unchallenged. And little sympathy for anything but wool was shown by Prof. J. A. Hill, of the University of Wyoming, who laid stress on the resiliency of this fiber, on its ability to absorb moisture without feeling wet, and on its high salvage value for re-use.

STABILITY THROUGH BLENDS. But Dr. J. B. Quig, of E. I. duPont de Nemours & Co., chairman of the manufactured-fibers session, went so far as to predict that the day will come when special fibers will accomplish many of the results now obtained by finishing—such as shrink resistance, crease resistance, and so on. Dimensional stability in rayon fabrics, for example, will be obtained by reducing the tendency of the fiber to swell, a property which, according to Col. Stephen J. Kennedy, Office of Quartermaster General, held down the use of viscose rayon for war purposes. Carl I. Taber, also of Dupont, reported that a blend of saponified-acetate fiber (such as Fortisan Fiber B) with cotton, had produced a shirting which, after 26 launderings, shrank only 0.6% in the warp and 0.0% in the filling. Dr. Quig listed some 40 properties of synthetic fibers which are subject to research and development toward the production of new properties in fabrics. Col. Kennedy urged that textile men think first of the fabric properties wanted, rather than of the fibers to be used.

The unifying effect of synthetic fibers and of various other factors affecting the industry cropped out in many of the sessions, which covered such diversified topics as labor relations, scientific application, finishing, merchandising, and garment manufacture. At the banquet on Thursday evening, H. Wickliffe Rose, of American Viscose Corp., toastmaster, announced that the board of governors of Philadelphia Textile Institute had voted the previous afternoon to stage another seminar next year, again with the purpose of giving top executives an over-all view of the industry's problems and progress.

M. Earl Heard, general chairman of first National Textile Seminar.

Following are some of the highlights of the Hershey meeting, with references back to issues in which the same subjects have been covered in detail:

TOW-TO-TOP. Three tow-to-top processes are in commercial operation in the United States, according to Robert A. Smith—the Perlock system [T.W., Dec., 1936], the Pacific Mills system (on which no details have been released), and the Nelson Campbell system [T.W., Feb. and Mar., 1943]. Mr. Smith also called attention to the description of the British Greenfield method described in the June TEXTILE WORLD [page 123].

The point that fiber blends are leading to a blending of the industry itself was made by Edgar L. Schlesinger, Cohn-Hall-Marx Co., New York. Blending, he said, will help to give the consumer what he needs, and at a low price. Greater use of rayon, he added, can exert a leveling effect on prices, making possible 60- to 90-day

notices of changes, thereby eliminating the present "ticker-tape" notices. Mr. Schlesinger distributed copies of TEXTILE WORLD's Synthetic-Fiber Table to those in attendance at the seminar, remarking that it is "of help to all of us." Aluminum yarns coated with cellulose acetate will shortly compete with French lame, he predicted; and he entered a strong plea for more organized study of new developments in non-textile industries.

SUCCESSFUL BLENDING. Several examples of good results obtained through blending were given by Robert A. Smith, as follows: Undershirts and T-shirts proved firmer and less droopy when made of cotton and rayon than when made of rayon alone. Use of 20 to 25% of nylon in a wool sock increased its life; and Mr. Smith suggested that a good sock might be developed with mohair for resiliency, rayon for absorbency, and nylon for strength. In blankets, rayon lends luster and permits a longer nap than is possible with cotton-wool blends. A carpet containing 50% rayon has been found to outwear an all-wool carpet, but the pile is not so resilient. Use of ultra-fine rayon has been found to increase the spinning limit of 80s wool from 8 or 9 run to 16 run. Some woolen mills have found that the length of the rayon fiber has made possible the salvaging of wool which would otherwise be too short to use.

Carl Taber reported that the use of 40% acetate in two deniers (3 and5.5) and in three lengths (3, 3½, and 4 in.) with 60% 64s wool (which was thereby raised in spinning limit to that of 70s or 80s) produced a remarkably high-grade 16-oz. serge which held its crease and press better than an equivalent fabric in all wool.

Some objections to blending were raised during the discussion. Laundering often presents a problem to the consumer and to the commercial laundry. The housewife has to be a textile chemist, Professor Hill remarked. Lack of an acceptable universal yarn-numbering system is another handicap. Egmont R. Egerer, of S. Augstein & Co., New York, declared that calculating the right blend in certain cases has been found to be no simpler than splitting the atom. Yarn levelness or evenness is more difficult to obtain in some instances, and this point led to a discussion of levelness testers. Some mills have developed their own based on the principle of the Saco-Lowell sliver tester, it was pointed out. M. Earl Heard recommended the machine developed by Shirley Institute. H. Gordon Smith reported good results from a new yarn scanner developed through the collaboration of U. S. Rubber Co. with General Electric Co. [T.W., June, 1945].

BLENDING METHODS. Sandwich blending was reported by Robert A. Smith as probably more satisfactory from a quality angle than hopper or other blending, but Mr. Heard pointed out that the sandwich method is too slow for at least the average cotton mill. Attempts to blend at the drawing result in streaks, it was pointed out. Mr. Smith laid stress on the importance of having all ingredients of a blend equally well opened—otherwise one fiber will be picked up more rapidly than another. He urged that the blend be tested for accuracy immediately after carding, since there is little opportunity for change in the later processes.

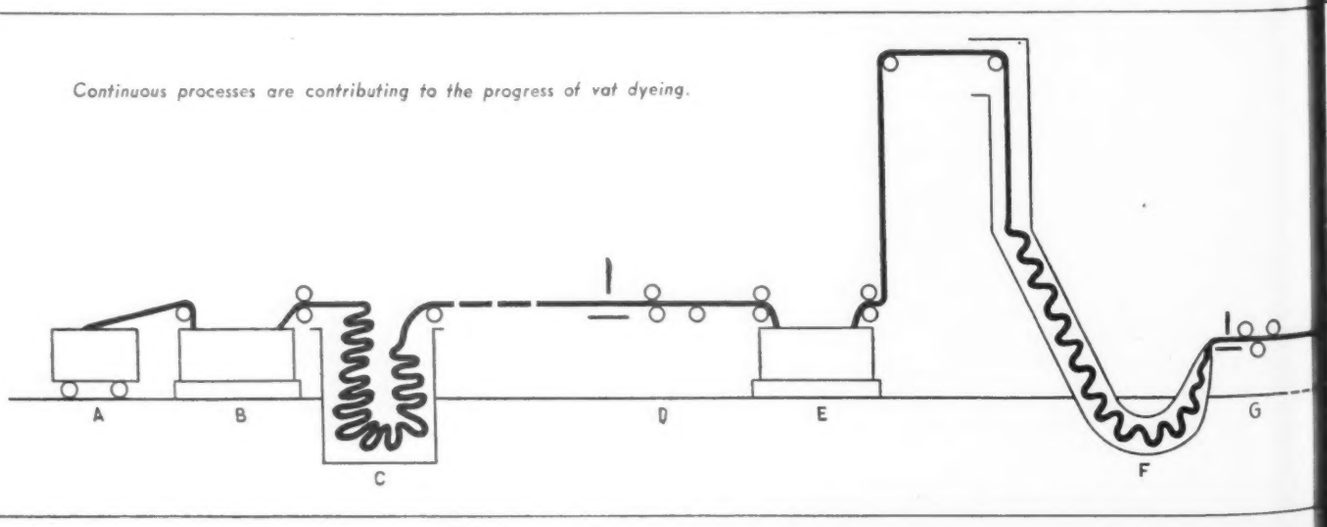
Ramie will require 25 years for commercial development, according to Dr. Simon Williams, of Fabric Research Laboratories, Inc. No standard practice has been developed for the degumming as yet; and the experimenting mills, rather than the fiber suppliers, are operating this process according to their individual ideas. The optimum amount of gum to be left on the fiber has not been definitely determined. The best results are obtained from ramie when the fiber is used in its full length, and this is not practical on most existing machinery in the United States [T.W., Dec., 1945].

The strengthening which is given some synthetic fibers by stretching has a counterpart in cotton, according to Dr. Frederick Bonnet, of American Viscose Corp. Tension placed on a wet cotton fiber tends to pull out the cellulosic cement around the fibrils and give a better orientation of the molecules, he explained. It has been found possible to produce a viscose fiber which is as strong wet as dry, according to Dr. Bonnet, through a crystallization which serves to combine hydroxyl molecules in dense chains parallel to the long axis of the fiber.

In a session on tire cord, headed by H. Gordon Smith, of U. S. Rubber Co., and Dr. Lewis Larrick, of Institute of Textile Technology, it was brought out that the difference of one turn of twist per inch may spell success or failure. Wire-cord tires continue to hold the interest of rubber manufacturers [T.W., Aug., 1944]. Price is the chief factor favoring rayon as against cotton in passenger tires [heavy-duty tire tests, T.W., Sept., 1944].

INDUSTRIAL FABRICS. Greater use of conveyor belts, as the result of rising labor costs throughout American industry, was seen by John A. Hagen, of Callaway Mills, as expanding one market for industrial fabrics. Laminated

Continuous processes are contributing to the progress of vat dyeing.



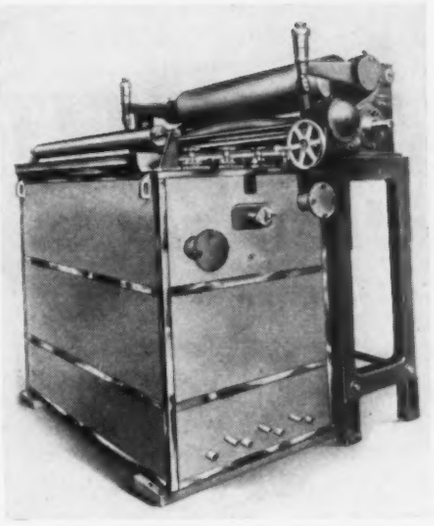
plastics are also offering growing promise, he said. [T.W., Oct., 1945]. The difficulty of bonding rayon (particularly filament) with rubber is favorable to cotton for many applications. Bonded-fiber roving has some opportunities in the industrial field, but the tendency of the strand to open up under flexing is a handicap. Bonded webs are weak filling-wise [T.W., Oct., 1944].

Fabric technologists should be certain to see that their cloths are adapted to economical cutting and sewing, according to Andrew J. Sokol, of J. P. Stevens & Co. Certain resin finishes have shown a tendency to burn up both cutting knives and needles. More attention must be given the laundering and dry-cleaning problems also, he said. Factors important to wearing-apparel sales, according to Mr. Sokol, are, in order of importance: (1) eye appeal; (2) handle, feel, and drape; and (3) serviceability [T.W., Mar., 1945]. On the latter point he added that some well-known water-repellency chemicals lower the tensile strength of the fabric.

GAS FADING. In the finishing session, presided over by Col. D. M. Bates, of Cold Spring Bleachery, Yardley, Pa., a detailed discourse on gas fading in acetate flat goods was presented by James A. Stevenson, of Bradford Dyeing Association, Westerly, R. I. His remarks on this subject follow:

"Oxides of nitrogen of the air are presumed to react with amino groups in the color, resulting in destruction of the dyestuff itself. Blues and violets turn to a very red shade. Presumably the acetate radical has some catalytic action, as the same dyestuffs dyed on nylon or silk are practically immune [T.W., Jan., 1946].

"The usual methods involve applying some alkaline medium which—until exhausted itself—neutralizes the acid fumes. The best of these products are organic amino or other nitrogen compounds, but they are water soluble and their properties are lost on the first wash. They retain their properties throughout dry cleaning, however [T.W., Aug., 1945].



Continuous-bleaching range at Ware Shoals, which combines rope and open-width principles.

"Two blue dyestuffs of the azo type are fast to gas fumes but, owing to relatively poor lightfastness, cannot be used on fabrics for outerwear [T.W., Jan., 1945].

"There is a new product put out by one of our leading dyestuff people which is substantive and which is also fairly fast to laundering and which, no doubt, will find a ready market. It is applied either before or after dyeing. I believe it is going to fill a very important need in the dress-wear field, and it may be that in another six months gas fading will be no longer a problem.

"Considerable work has been done on the application of acid dyes to acetate. These colors show no gas fading and good lightfastness [T.W., Jan. and Oct., 1945].

"Vat dyes can be applied to acetate piece goods by slight saponification of the acetate prior to dyeing, but we believe this process has found wider application in the printing field than in the dyeing field [T.W., Oct., 1945].

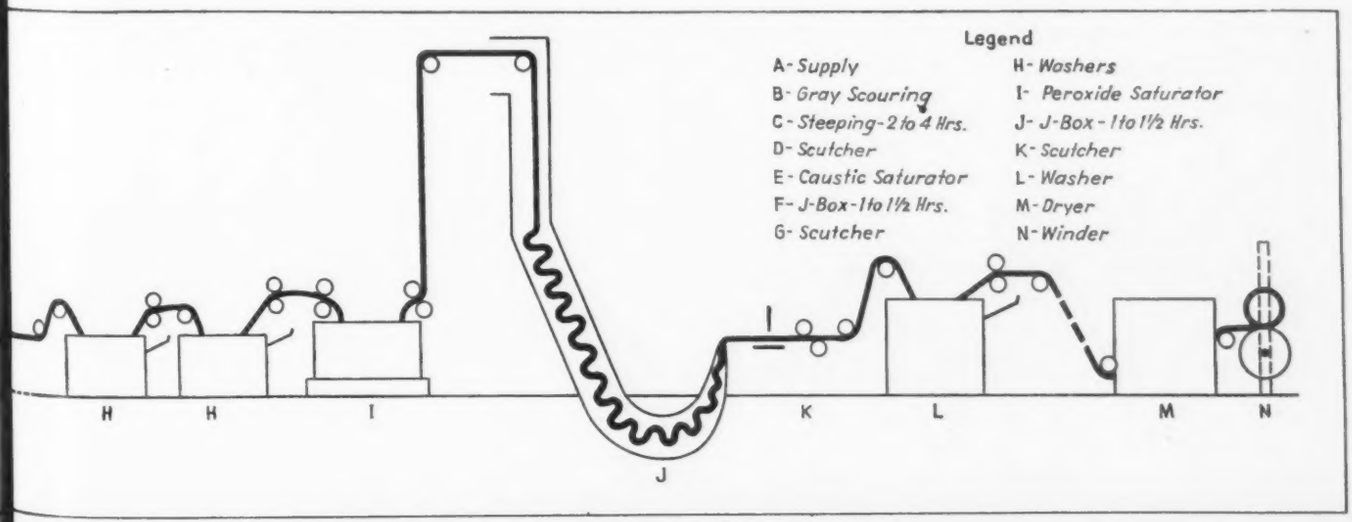
PIGMENT COLORS. "Pigment colors provide an interesting field in the dyeing of acetate fabrics. There are, however, limitations as to the depth of shade which can be produced owing to the poor fastness to crocking or rubbing of medium and dark shades.

"Pigments can be applied either from the outside-oil-phase or the outside-water-phase emulsions of synthetic resins, and there is some difference of opinion as to which is the better.

"We understand there are available now some new modifications of the regular-type acetate colors. The latter are usually highly dispersed dyestuffs; and the new modifications bring them on the market in a soluble state, to be precipitated on the fiber by treatment with an alkali. These colors show no advantage in fastness over the usual direct-dyeing acetate colors, but show interest from the application point of view.

"Work is now being done on the incorporation of suitable swelling agents in the dyebath [T.W., Jan., 1945] to pad colors on to acetate fabric with quite satisfactory results. This shows a marked advance in production work on light shades and also in the application of colors which do not produce level results, due to temperature differences, when dyed by the normal jig method.

(Continued on page 172)



TRICOT STITCH
Is Extremely Simple

HIGHLIGHTS: *One-bar fabrics produced with minimum of motion—Elements shown are basic for all designs—Interlocking of warp ends binds fabric together.*

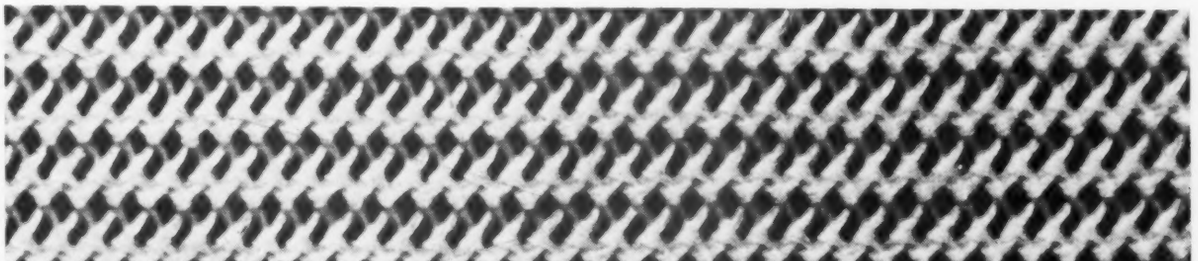
By T. H. JOHNSON

TO DESIGN TRICOT PATTERNS it is obviously necessary to have some knowledge of how the fabric is formed. A complete knowledge of the machine mechanism is not needed by the designer, but familiarity with the stitch-making elements and their functions is essential so that the pattern potentialities, as well as the limitations, are clearly understood.

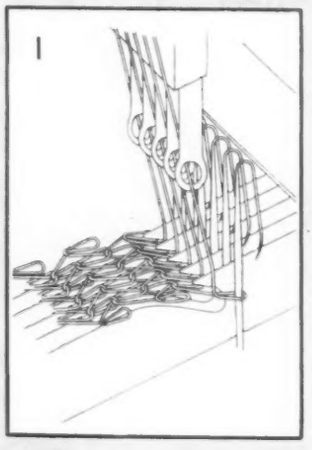
Although tricot machines use one or more warps as in weaving, the similarity to that method of cloth fabrication ceases at this point. There is no shuttle employed and there is no filling thread, in the accepted sense, to bind the fabric together. Instead, each warp thread is caused, by the knitting mechanism, to be connected to the threads adjoining it on either side. Figures 1 to 20 show diagrammatically how the warp threads are actually formed into stitches and are interlocked with the adjacent stitches to make a fabric.

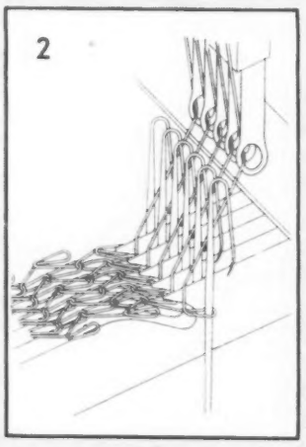
For the sake of clarity only one guide bar is shown in operation in these drawings. The fabric, therefore, is a one-bar cloth. The stitch pattern illustrated (1-0, 1-2) is one of the simplest; i.e., each warp thread is traversing the shortest possible distance (one needle space) and is knitting on the minimum number of needles (two) to produce fabric. As will be seen, two complete stitch cycles are necessary: one to form the stitch 1-0 for the first course; the other to form the stitch 1-2 for the second course.

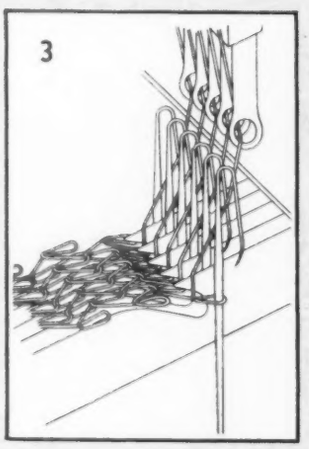
The series of drawings on these pages, showing the formation of a tricot stitch, will appear in a book on tricot designing written by Mr. Johnson to be published late in September by the McGraw-Hill Book Co.—EDITOR.

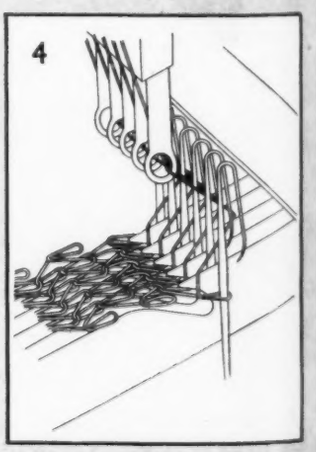


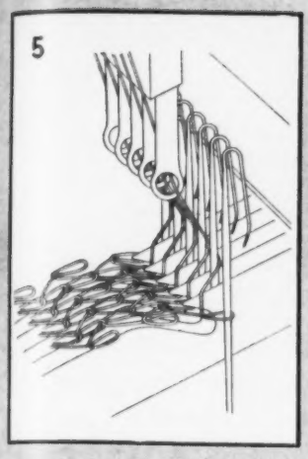
0-1, 1-2 TRICOT STITCH *(Magnified 10 times)*







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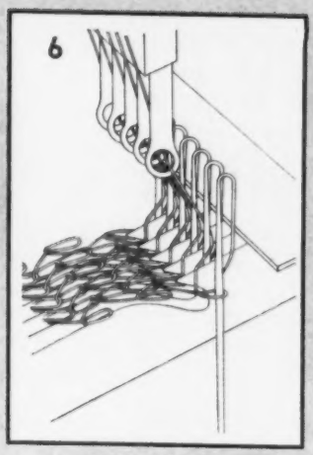
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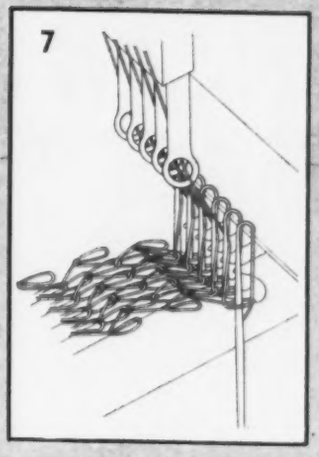
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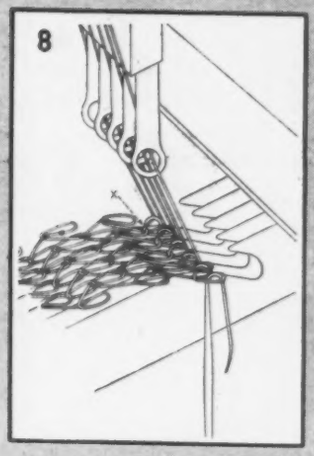
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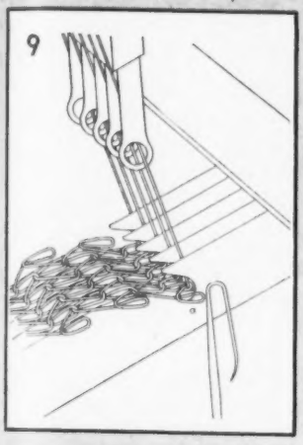
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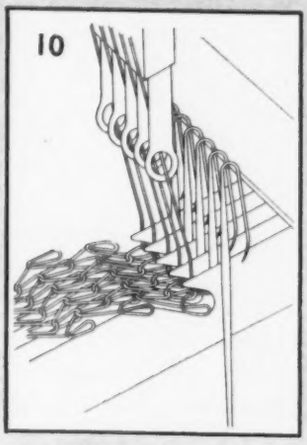
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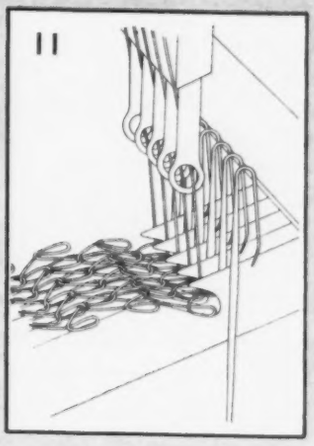
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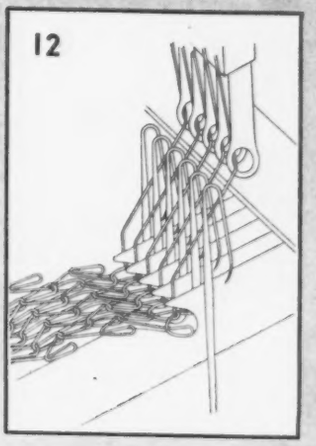
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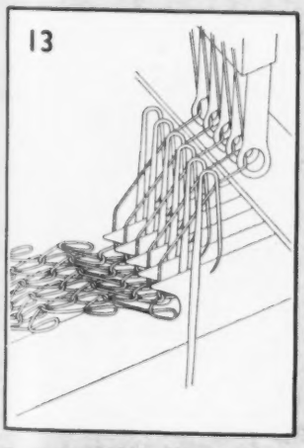
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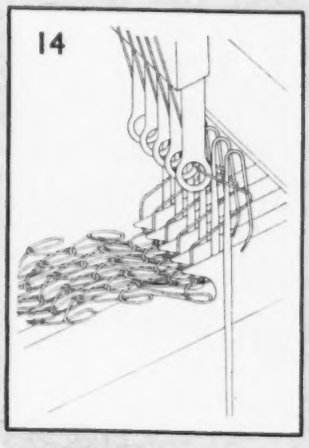
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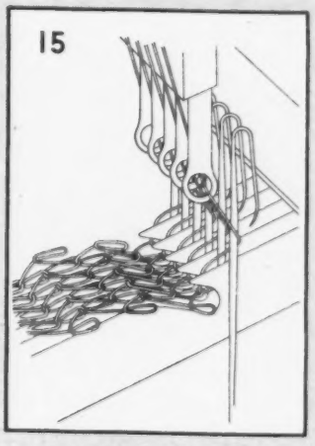
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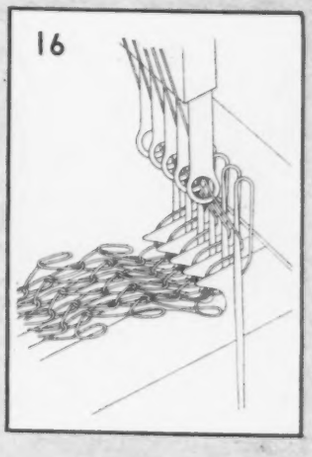
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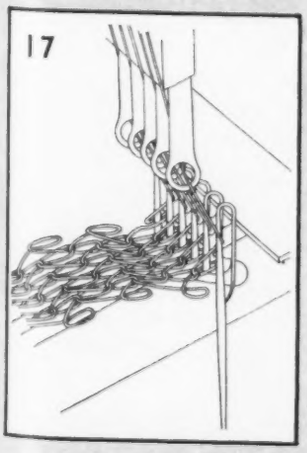
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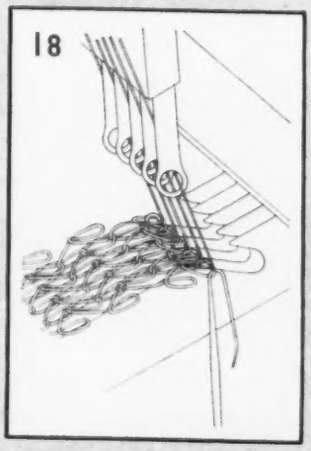
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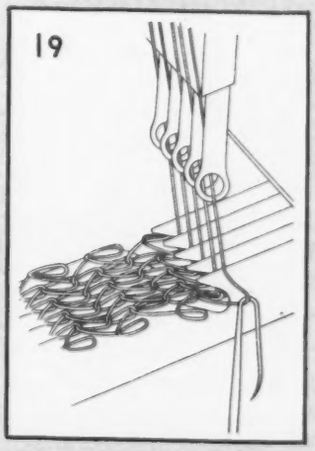
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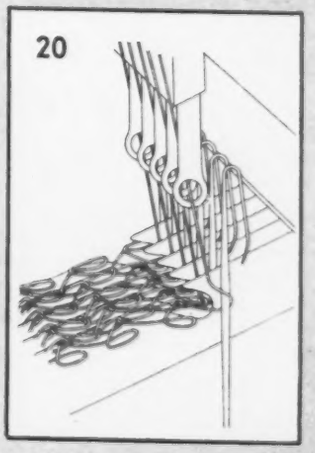
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WAGE INCENTIVES
Aid Spinning Production

Incentive pay for roving hauling is based on the time a bobbin of roving will run in the creel of a spinning frame. Photo by Coxe

Operation Doffing

Mill ABC Dept. Spin Date 3-23-46

Mechanical and Stock Layout

15.00 (4.25 x sq. root); grade B cotton; 1.00 hank single roving 2 1/8-in. ring; warp build; 7-in. stroke; 2-in top taper; 1 1/2-in bottom taper; 155 RFR; 38 hks per doff; #17 traveler; 228 spindles

Job Method

Standard mill practice; gets bobbins from and dumps yarn into wooden boxes in cross-alleys; no doffing schedule; no other duties besides doffing.

Suggested Changes, Mechanical

Tests (3-21-46) show frames, if run full, will average 4.0 hanks per doff.
Use 4.0 hanks per doff

Suggested Changes, Method

Suggest use canvas boxes to eliminate doffer lifting yarn. These can be switched from doff box to floor, and are replaced by empty boxes.

Approved Overseer of Spinning

Approved Supt.

Fig. 1. Analysis of an operation gives complete data on stock, machinery, and methods; and frequently results in job improvement.

HIGHLIGHTS: *Modern incentive-wage plans cover direct and indirect labor—Special bonuses supplement regular production incentives—Analysis of the operation should precede incentive setting—System must be flexible to avoid pay and work-load injustices.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

ALTHOUGH WAGE INCENTIVES were summoned into the war-time service of the nation by industry and government, their use in cotton spinning is traditional. Refined by modern industrial engineering for varied applications, incentives stem directly from the prefactory days of old England when the women of the household took raw fiber from the merchants of the town, and carded and spun it into yarn at a fraction of a penny per yard.

Beginning in 1884 with the work of Frederick W. Taylor, superintendent of the Midvale Steel Co., wage incentives have undergone constant change and refinement, with the result that a great variety of plans are found in the spinning room of today. Some are simple, some complicated—but all are designed to meet local conditions.

The modern demand is for complete coverage of all manufacturing operations, and the most recent trend is towards the use of over-all and special-event bonuses in addition to regular production incentives. Thus, incentives are being applied to what, in past years, would have been called purely indirect work; and by doing this, with continued coverage of direct operations and a proper use of the special-event bonus, the modern textile plant is making effective use of this tool of management.

PRODUCTION INCENTIVES. The simplest form of incentive used by mills is the straight piece rate applied to direct operations, such as spinning and doffing. The basis of pay for these operations may be the hank, side, or frame. Preference is usually given the hank, since it

is the clocked unit of production on the frame and offers a more direct encouragement for continued and uninterrupted operation of the machinery. Similarly, automatic spooling is paid for by the dozen or fifteen cheeses carried on a trident, and warping is based on 100 or 1000 yd. of production.

On the other extreme of the incentive wage system is the complex analysis method arrived at by time-studying all the operational elements of each job. This approach has two essential advantages over the piece-rate method: (1) it covers all manufacturing operations, and in some plants the shop, yard, and office functions as well; (2) by reducing the basis of pay to minutes or decimal hours, it offers opportunities for control of cost not possible with the piece-rate method.

Another type of incentive being used by mills is the group bonus. It is used either under the piece-rate method or the so-called wage-incentive system. It is designed primarily for operations, such as warping, in which the work of several operators constantly overlap.

SPECIAL BONUSES. Of interest, too, is the special over-all plan put into use because of the war emergency. Known as "the present rate of production" plan, it was promoted by Charles E. Wilson, former vice-chairman of WPB, and is used chiefly to convert from hour rates of pay to piece rates by calculating piece rates from present earnings and present rates of production. It is utilized as a special incentive by companies which already have an incentive-pay system in force.

There are other incentive ideas which are not strictly production and wage plans, such as quality, annual, and special-event bonuses, and vacations with pay. One North Carolina mill, before wage stabilization, paid a special-event bonus of a double weekly payroll for each week in which it received the Army-Navy "E" Award.

OPERATION ANALYSIS. A definite procedure should be followed in establishing an incentive, regardless of the system used, to avoid small injustices to the worker or the mill. An accumulation of small changes can render any incentive worthless unless some method is provided for handling it. Suppose, for example, that an incentive were set on a doffing operation and no record of the manufacturing and mechanical conditions were made. If the traveler should be lightened or the stroke shortened, there would be a reduction in the time that the frame would run per doff. Instead of doffing every three hours, it might doff every two hours and forty minutes. Thus, the operator would be working more for less money.

Therefore, some method must be employed which not only will record the job conditions, but also will facilitate the incorporation of any changes which might be undertaken from time to time. An operation analysis similar to Fig. 1 should be used. Full information regarding the stock, machinery, and method should be recorded. Approval of this layout should make it "standard," and no change should be made without proper notification and approval. The intelligent use of an analysis of an operation prevents an upset of the incentive system.

DOFFING INCENTIVE. The second step, based on time study, in working out a doffing incentive is shown in Fig. 2. It should be noted that these figures are for example only, and the times given are only approximations of the actual. While it is realized that not all mills have time-study facilities, this method will be useful to the mill man responsible for general job-analysis work and to the production men who have taken JMT and other industrial engineering training. In addition, it is recommended by engineers as a method of training all classes of textile mill personnel for upgrading and self-improvement.

Under the column "elements," the engineer has written a complete step-by-step description of the doffing job. As will be noted, this description is by natural work-elements. By reading down the column the reader can visualize the whole operation. Standard times for each element is listed in the next column, and frequency per hank shows the number of times the elements occur per hank run on the frame.

For example, with the frame running 4.0 hanks per doff, the doffer would "move doff box to bobbins" once every 4.0 hanks, assuming that his box held one doff of empty bobbins. The frequency of this element is 0.25 per hank.

Time per hank is obtained by multiplying the frequency, 0.25, by the standard elemental time, 0.60 min. This gives 0.150 min. per hank. All other elements are extended similarly, and the total minutes per hank are obtained—which, in this case, are 2.283 min. per hank.

To obtain a piece rate from this

Mill ABC Dept. Spin Date 5-1-46

Operation Doffing

Style 15's carded (4.25 hank roving); 1.00 hank single roving; Grade Better

Machine 228 spindle; 2 1/8-in. ring; 7-in. stroke; warp; 4.0 hank per doff; #17 traveler

Element	Time	Frequency per Hank	Time per Hank
1. Move doff boxes to bobbins	.60	.25	.150
2. Fill with bobbins	.40	.25	.100
3. Move doff box to frame	.60	.25	.150
4. Stop frame, kink ends	.32	.25	.080
5. Wind traverse	.10	.25	.025
6. Doff first side	2.20	.25	.550
7. Move to next side	.20	.25	.050
8. Doff second side	2.40	.25	.600
9. Start frame	.15	.25	.038
10. Piece up (aver. 13 breaks)	1.75	.25	.440
11. Push out box & dump yarn	.40	.25	.100
TOTALS	9.12		2.283

Use: 2.28 min. per hank

Fig. 2. Time analysis of doffing develops accurate data for incentive setting and for methods-improvement work.

Classification for Incentive Purposes

Operation	Usual Class	Class for Incentive
Spin	Direct	Apply direct
Doff	Direct	Apply direct
Spool	Direct	Apply direct
Warp	Direct	Apply direct
Roll Picker	Indirect	Apply direct
Oiler	Indirect	Apply direct
Band and Tape	Indirect	Apply direct
Sweep	Indirect	None
Overhaul	Indirect	None
Section	Indirect	Apply direct
Roving	Indirect	Apply direct
Quill Machine	Indirect	Apply direct
Bobbin Machine	Indirect	Apply direct
Air-Drill Cleaner	Indirect	Apply direct
Frame Cleaner	Indirect	Apply direct
Creel Warper	Direct	Apply direct
Doff Warper	Direct	Apply direct
Yarn Hauler	Indirect	Apply direct
Scrub Rolls	Indirect	Apply direct

Fig. 3. Classification of spinning operations shows possibilities for incentives in all jobs except overhauling and sweeping.

standard time, the following formula is used:

$$\text{Piece rate} = \frac{2.283 \times \text{base rate per hr.}}{60 \text{ min. per hr.}}$$

METHODS IMPROVEMENT. Operation and time analysis form the crux of industrial engineering's contribution to modern management. Upon them are based not only wage incentives, but also other important phases of industrial management, such as cost systems, cost control, and methods improvement.

To the production man the latter is the most important. Any decrease in work or amount of time spent in an operation, is a battle won. What, then, is the relation between operation, time analysis, and better methods?

As an example, suppose a superintendent is considering a change to a 2¼-in. ring and wants to know what improvements will result from this change. A test frame indicates that 5.0 hanks per doff can be obtained on the 2¼-in. ring as contrasted with 4.0 hanks per doff on the 2⅛-in. ring. (These are theoretical figures.)

A glance at the time analysis in Fig. 2 will show how these results work out. First, it is found by a time study that element 6 and 8—the actual doffing elements—have to be increased 10% to allow for the heavier bobbin weight lifted. Adding this to the total time per frame gives 9.58 min. per frame doffed. Doffing at 5.0 hanks per doff would give 9.5 ÷ 5.0, or 1.92 min. per hank, as opposed to 2.28 min. per hank for the 2⅛-in. ring. The 2¼-in. ring would thus decrease time per hank by 16%.

INCENTIVES FOR INDIRECT. Perhaps the most immediate progress for textile incentives lies in the extension of the direct standard to indirect operations. In the spinning room, for example, direct standards have been applied by some mills to all operations, with the possible exception of sweeping and overhauling; and these are tied in by the wage-incentive system. By the use of an operation and time analysis, such jobs as roving hauling, cleaning, quill machine, and roll scrubbing can and are being put on an incentive-pay basis.

An analysis of spinning jobs for direct-standard purposes is shown in Fig. 3. The second column gives the traditional classification, whether direct or indirect, and the third column shows which jobs can be set on a direct standard by an operation and time analysis.

The procedure for setting an incentive on a roving-hauling job would be the same as that outlined for the doffing operation. An operation analysis would be made to establish a standard layout for the job, and a time analysis would be made similar to the one shown in Fig. 4. While the roving-hauling job shown is set up on a spinning-hank basis, it should be stated that some mills favor the roving-frame hank basis. In either case, the job would have a different incentive for each hank roving and depend on the time the roving ran in the spinning creel.

Mill ABC Dept. Spin Date 5-1-46

Operation Roving hauling

Style 15s carded, grade B cotton from 1.00 hank single roving

Roving 100 bobbins per box; 1.8 hanks per bobbin; box holds 6 doffs empty bobbins

Element	Time	Frequency per Box	Time per Box
1. Push roving to spin	4.30	1	4.30
2. Lay roving on frame	2.50	1	2.50
3. Return with empty box & cart rm.	3.10	5/6	2.58
4. Take down empties (6 doffs per box)			
a. Collect bobbins	15.30	1/6	2.55
b. Push bobbins to stripper	5.80	1/6	.97
c. Walking to card room for roving	1.90	1/6	.32
TOTALS			13.22

Use: 13.22 min per 100 bobbins or per 2700 total spindle hanks

$13.22 \div \frac{2700}{228}$ spindles = 1.1 min. per frame hank.

Fig. 4. A time analysis of roving hauling reveals that a direct incentive can be applied.

Special Slide Rule Solves WOOLEN-FINISHING Problems

HIGHLIGHTS: *Inexpensive slide rule is adequate for conversion—Use can be learned in short time—Fast calculations aid mill in constant checking of finished weight.*

By H. E. BLANCHARD

IN THE FINISHING of woolen fabrics, one of the many problems is that of determining the shrinkage necessary to produce a cloth of the desired weight. Solution of this problem rests on determining the percentage of dead loss, or loss in weight, which will take place in finishing the cloth after it has been woven.

As a piece of woolen cloth comes off the loom, it contains oils, vegetable matter, and dirt. The weight of these foreign substances is lost in finishing and, in addition, there is a decrease in fabric weight due to loss of fibers in the finishing processes, fulling, napping, shearing, etc. Thus, a yard of woven cloth is lighter after it is finished, due to the above losses, if it is not shrunk during finishing. Securing the desired appearance, feel, and handle in the fabric, with proper finished weight, depends on the weight loss in finishing, or dead loss, the amount of head put in at fulling, and woven weight out of the loom.

These four factors, loom weight, finished weight, shrinkage, and dead loss, are interdependent. The formulas derived below illustrate a method to determine any one of the factors from the other three easily and quickly with a slide rule.

Two of the factors, loom weight per yard and finished weight per yard, are both expressed in ounces. The cloth will shrink in width and length; but it is the loss in the length of a unit of woven cloth, or end shrinkage, which will be considered here. If 89 yd. of finished cloth are obtained from 100 yd. of woven cloth, the shrinkage is 11 yd., or 11%. The cloth yield in length is 89%.

Dead loss refers to the loss in weight which takes place in the finishing of a given length of cloth. If a piece of cloth weighing 100 lb. out of the loom has a finished weight of 89 lb., the dead loss is 11 lb., or 11%. The cloth yield in weight from woven to finished fabric is 89%.

FORMULAS. The following symbols will be used in working out the formulas:

F = Oz. per yd. finished.
W = Oz. per yd. as woven.
S = % length shrinkage.
D = % dead loss.

The four factors above stand in the following relation to each other:

$$\frac{\text{Oz./yd. finished}}{\text{Oz./yd. as woven}} = \frac{100 - \%\ \text{dead loss}}{100 - \%\ \text{shrinkage}}, \text{ or}$$

$$\frac{F}{W} = \frac{100 - D}{100 - S}$$

(Continued on page 183)

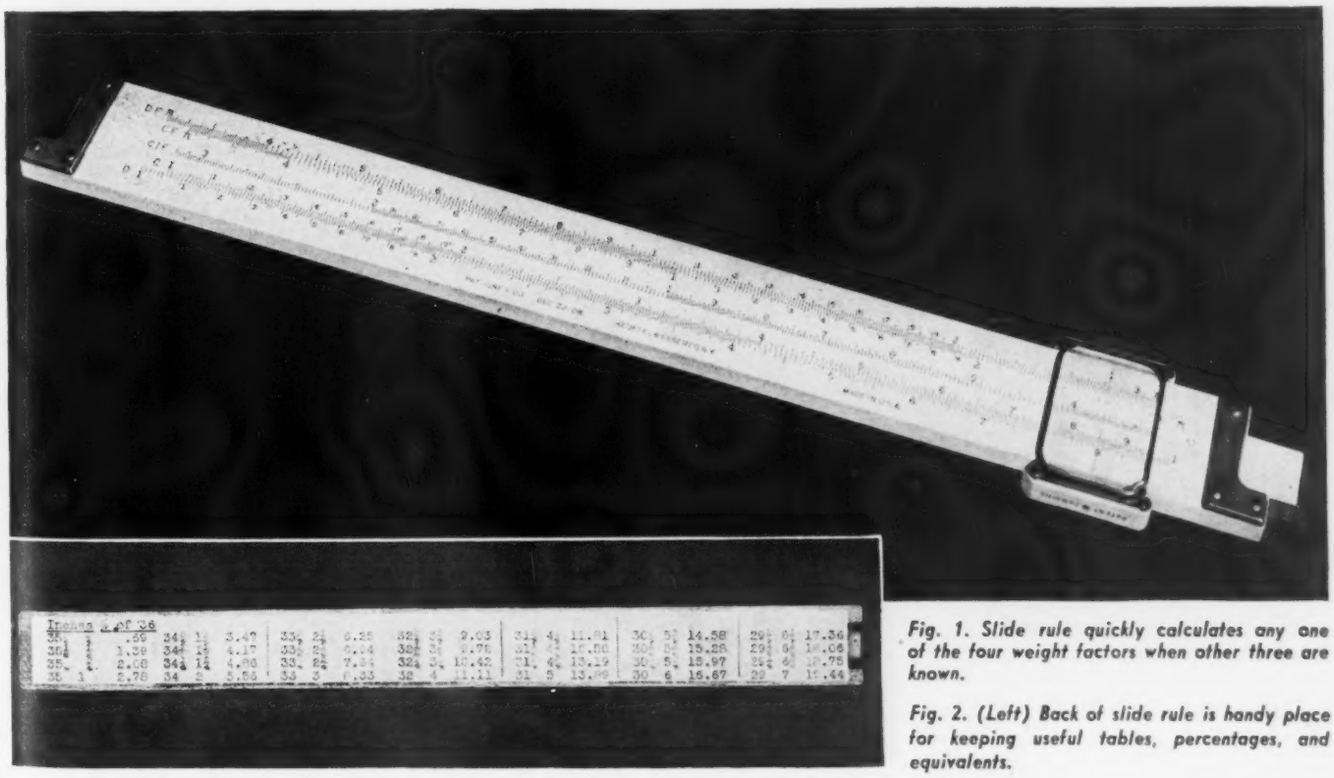


Fig. 1. Slide rule quickly calculates any one of the four weight factors when other three are known.

Fig. 2. (Left) Back of slide rule is handy place for keeping useful tables, percentages, and equivalents.

Change in Condensate Return On Dryers SAVES FUEL

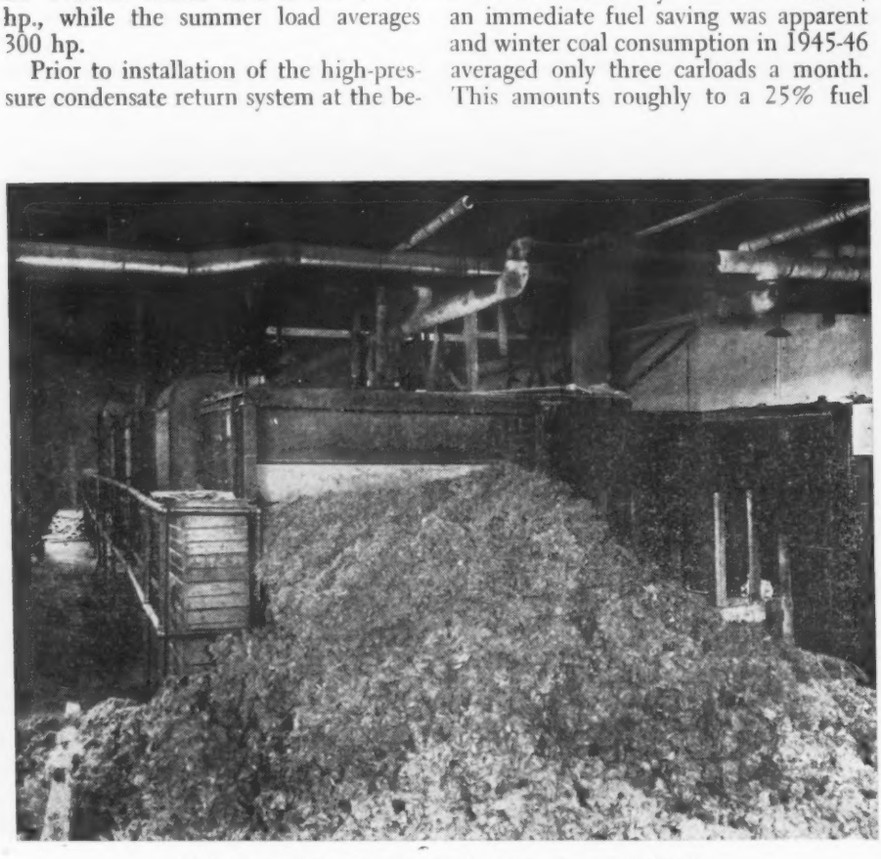
HIGHLIGHTS: *Denston Felt & Hair Co. cut coal use last winter from previous four cars monthly to three cars—Superintendent finds production improvement due to more regular heat in dryers best feature of high-pressure condensate return system.*

By ALBERT WELZ
Superintendent, Denston Felt & Hair Co., Philadelphia, Pa.

TWO STOKER-FIRED BOILERS supply the plant of Denston Felt & Hair Co., Inc., with steam for two hair-dryers and two felt-dryers at 75 lb. per sq. in., in addition to steam for can-dryers and unit-heaters operating at 15 lb. per sq. in. Normal winter load is about 400 hp., while the summer load averages 300 hp.

Prior to installation of the high-pressure condensate return system at the beginning of 1945, the coil sections of the hair-dryers and felt-dryers were trapped to atmosphere and the condensate returned at about 210° F. to the open heater. About four carloads of coal were burned each month. After the condensate return system was installed, an immediate fuel saving was apparent and winter coal consumption in 1945-46 averaged only three carloads a month. This amounts roughly to a 25% fuel saving. Assuming 50 tons per carload, the fuel saving in $5.25 coal amounts to $262.50. The fuel saving is actually somewhat in excess of 25% because of the increased shifts and increased drying rates last winter over the year before.

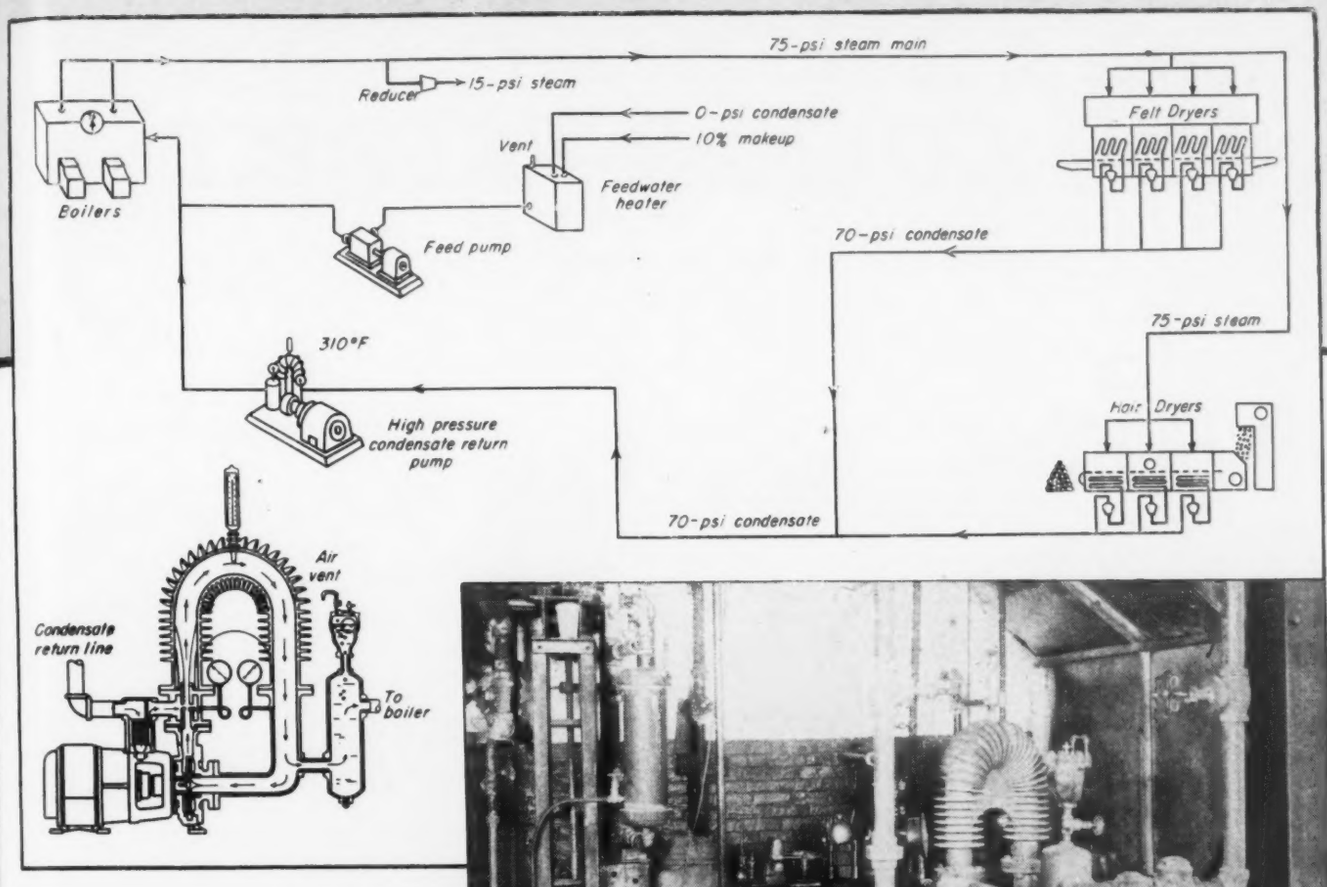
The increased drying rates are directly traceable to the positive drainage afforded by the high-pressure condensate return pump and the high back-pressure maintained on the traps. The traps, exhausting intermittently into the high-pressure, high-temperature return line, are thus prevented from causing wide fluctuations in temperature of the drying coils. These broad variations in coil temperature previously required slow feed rates to insure drying of hair and to avoid re-runs.

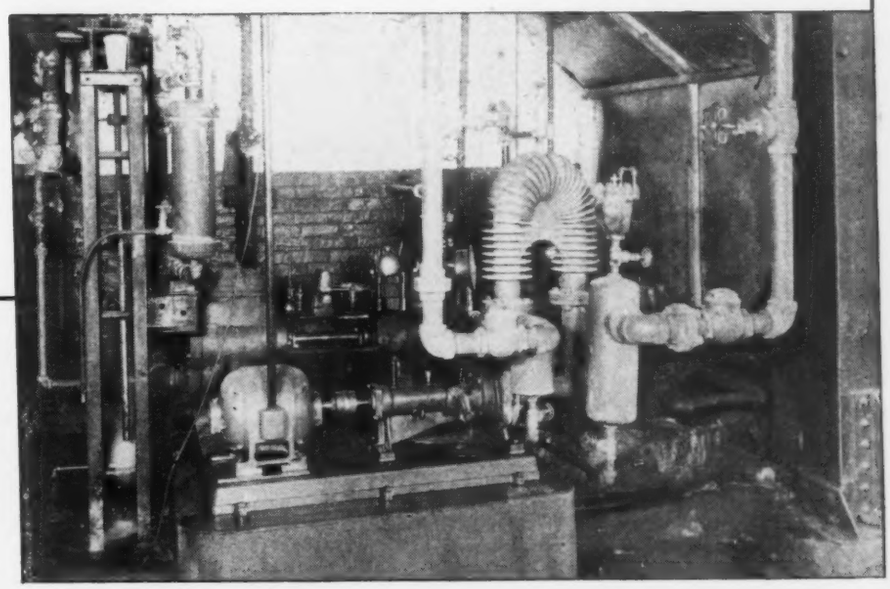


Hair dryer of Denston Felt & Hair Co., Inc., Philadelphia

SECTIONAL DRYERS. The hair-dryers are constructed in three sections, coils of each section being separately drained by an individual inverted-bucket trap. The center section has a belt-driven kicker for turning the hair over on the conveyor belt. Coarse hair previously had to be run through the hair dryer at the No. 3 slow speed to insure thorough drying and eliminate costly re-runs. Currently, with the high-pressure condensate drainage system installed, all grades are run at the No. 1 high speed. In addition, when jute is run, the steam-line valve is kept two-thirds closed to prevent excessive drying and breakage of the fibers from too much heat.

The felt dryers consist of four-coil sections with overhead steam coils. Each section is trapped to the condensate return line. Where felt was previously fed at a rate of 5 (linear) ft. per min., with the standard open system, the rate is now 7 ft. per min. with completely adequate drying and no necessity for re-runs. Because of the constant condensing rate of the drying coils, it is not necessary to bypass the traps to maintain positive drainage, even though the pressure drop through the traps has been reduced by the increased back pressure.

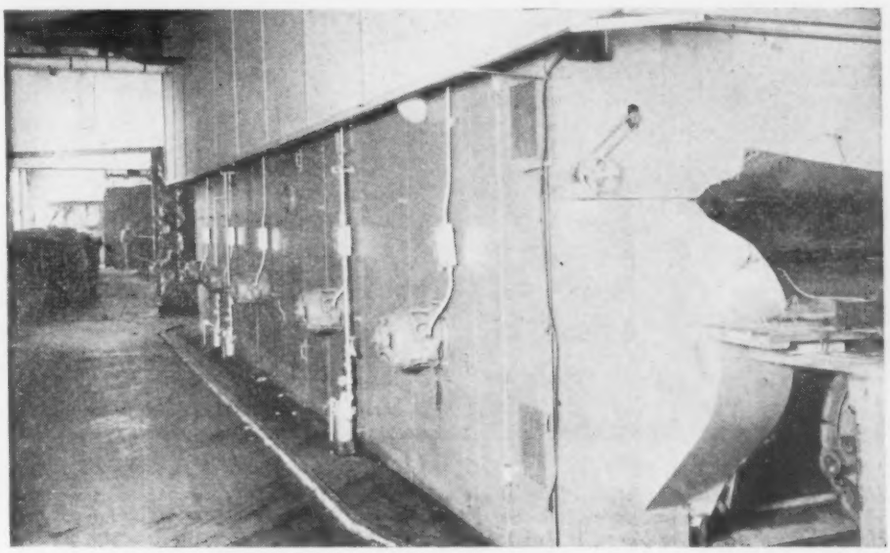




Cochrane C-B high-pressure condensate return pump installed beside the boiler feed pump, is shown in the photograph; diagram shows flow of condensate through high-pressure condensate return pump.

The condensate in the exhaust line is drawn into a closed loop on the condensate-return unit through a jet-pump nozzle. Water circulated through a priming loop strikes the returning hot condensate and induces flow from the condensate line through the venturi mixing tube and into the priming loop. This additional volume of condensate introduced into the constantly filled loop results in the discharge of an equal volume through the air separator to the boiler. The hot condensate and entrained air are drawn from the drying equipment by the jet pump. Entrained air in any great quantity is usually encountered only on starting up. This air is eliminated from the circuit by passing through the air separator. The condensate is returned to the boiler at about 310° F. instead of 210° F. as previously. The circuit from boiler through dryers and back to the boiler is completed in a closed system without substantial drop in pressure or temperature.

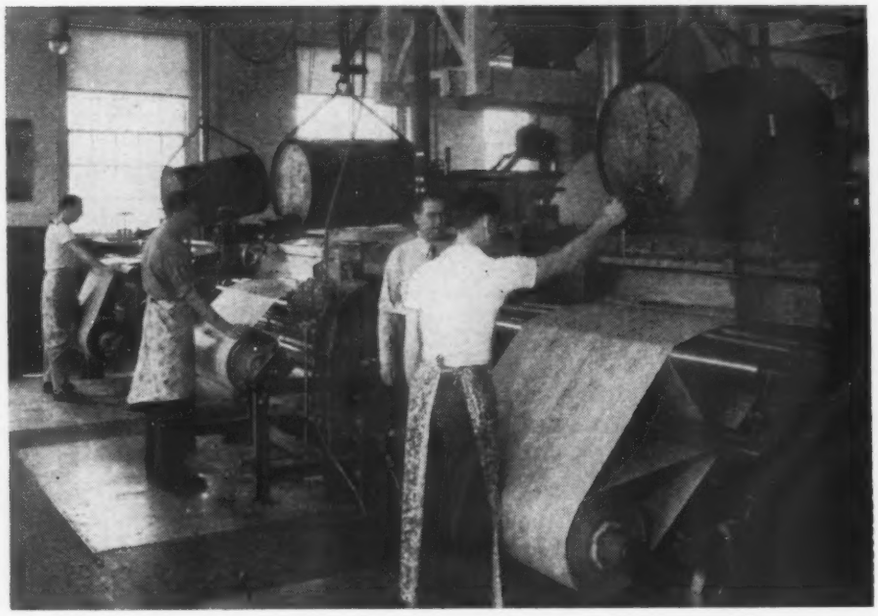
The three advantages of high pressure condensate return in our plant are: (1) Higher dryer temperature; (2) more uniform heating; (3) fuel savings. The increased production from higher temperatures and more uniform heat actually overshadow the importance of the fuel savings.



Felt dryers are drained with no piping changes around the traps.

Precise Control Means Quality COATED FABRICS

HIGHLIGHTS: *Large yardages processed by Plasticote Fabrics Corp. Coating operations relatively few in number but each important for proper results—Vinyl resins favored because of superior properties for many uses.*



Three of the plant's coating units running simultaneously (foreground), supervised by J. Cerf, president of the corporation. One is applying the "precoat," or base coat, while on the other two the cloth is receiving finishing coats. Usually a light precoat is first applied to the cloth to prevent "strike-through"; and the first coat is followed by one or more finish coats, until the required finish is obtained.

By C. NORRIS RABOLD

GOOD EQUIPMENT, control in resin preparation, uniformity in coating operations, and technical knowledge are four necessary requirements in the production of satisfactory resin-coated fabrics. Plasticote Fabrics Corp., Paterson, N. J., produce every week a large yardage of resin-coated cloth which must pass stringent tests as to quality and uniformity.

Since the processes are relatively few in number and the operations are, on the surface, apparently simple, one should not be fooled by this apparent simplicity, as a considerable amount of "know-how" and careful time, temperature, and concentration control is necessary, especially in the preparation of the "dope" and in its application to the fabric. In coating, one must be right the first time, as little can be done in the way of rehandling or correcting an improperly applied finish.

Operations are as follows:

1. Cloth inspection and winding.
2. Preparation of resin solutions: (a)

Cloth inspection and winding for coating. It is necessary before coating to inspect the cloth for such defects as broken selvages, bad seams which must be resewn, and holes or cut and torn places. Rolls must also be wound straight and even, in sizes ranging from 500 to 1000 yd. Goods are again inspected before being shipped out. Bins seen in the background are used for temporary storage.

Mixing and blending room. Here the resins are compounded with a variety of chemicals, carefully selected to meet the exacting requirements dictated by the end use to which the coated fabric may be put. The compounded resins are then transferred to tanks (foreground) where final adjustments in shade, viscosity, and temperature are made before going to the coating machine.

Dissolving of resin in solvents; (b) Incorporation of pigments, if required.

3. Coating, drying, and batching.
4. Calendering.
5. Dusting.
6. Inspection and put-up.

PREPARATION. Mixing and handling equipment for the preparation of the "dope" includes high and low speed agitators, cooling tanks, electric hoists, and various labor saving devices.

Coating is done entirely with spreader-knife roll coaters. At present, the plant has four knife roll coating units in operation. Since the company builds its own coaters and dryers, it is able to incorporate its own ideas and make improvements in design and operation.

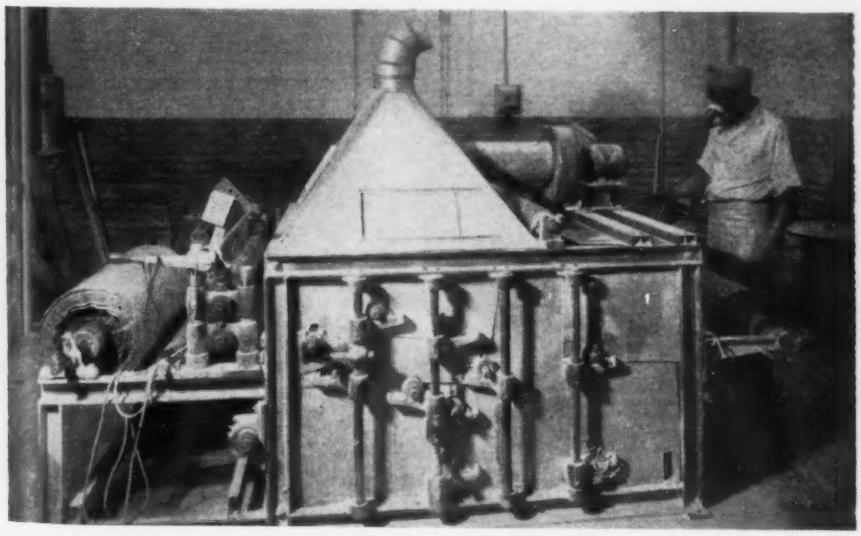
A knife roll coating unit really consists of three separate machines in range form. The first is the coater on which the resin film is applied to the cloth in controlled amounts. The cloth then enters the dryer or curing oven where the solvents are evaporated and the resin is "set" onto the cloth. At this plant, the dryers are equipped with automatic controlling and recording thermometers as well as all the necessary safety features required by the inflammable nature of the solvents used for dissolving the resins. On leaving the dryer, the cloth may pass over water-cooled chill rolls to reduct the temperature and then is wound on a conventional batcher.

VINYL COATINGS. While practically any kind of resin coating may be applied, depending on the customer's wishes or use to which the fabric may be put, much of the coating now being done is with vinyl resins. Both clear and pigmented finishes are run, and the fabric may be coated on one or both sides. A wide variety of cloths are coated; cotton bleached, dyed, or printed; rayon, nylon, and Fiberglas. The bulk of the coating, however, is done on cotton for such items as shower curtains, upholsterly cloths, slip-covers, rain-wear, aprons, table-cloths, baby bibs, crib sheets, and mattress covers.

Vinyl resins have come into considerable favor for many purposes in the coating industry. They possess a number of desirable properties. Some of these are: good weather resistance; durability; oil, stain, and acid resistance; high degree of water-proofness; lack of color and odor; good ageing properties as regards stiffening; and resistance to fire, inasmuch as the coatings are not likely to flare up and burn.

Batching up after final finish coat. Cloth being inspected and wound on roll on leaving drier, after passing over chill rolls for cooling and reducing tackiness.

Calendering. On leaving the dryer, the coated cloth is calendered to furtther imbed the resin coating and give it a polish or glaze. Calender has two hard paper rolls and a center steel roll which can be heated to the desired temperature. It also operates over a wide range of pressures, from a light set, up to 70,000 lb. per sq. in. Operator is checking temperature of heated roll with pyrometer.



Dusting. Since certain types of coating still contain minute traces of solvent and do not completely "set" for several days, it is necessary in some instances to dust the cloth before putting up on tubes to guard against its sticking together. Operator uses starch or mica dust which is distributed on surface of cloth in an almost imperceptible film. Revolving brushes in the machine remove excess.

Checking of finished product. Fiberglas, the small sample uncoated, and the large one coated in a brilliant red, is examined by Mrs. M. Cert, treasurer of the corporation. She is the author of articles on coating.

Use of EFFECTIVE FORMS Aids Machinery Inspections

HIGHLIGHTS: *Maintenance program is only as good as its inspections—Time-tested forms give department heads instant grasp of machine conditions —Numbering of spooler and winder spindles permits defects to be pin-pointed.*

By FRANK L. BYRD
Superintendent of Weaving Maintenance
Dan River Mills

BARBER-COLMAN SPOOLER

DIVISION_____ MILL NO._____

LEGEND FOR INDIVIDUAL SPINDLES
1—Satisfactory
2—Detector Grooved
3—Detector Spring Too Loose
4—Detector Spring Too Tight
5—Detector Support Loose
6—Detector Too Tight
7—Detector Finger Bent or Broken
8—Snick Plate Stuck
9—Snick Plate Improperly Set
10—Snick Plate Loose (On Support)
11—Wire Loops Bent
12—Thread Clamps Not Holding

SPINDLE

Mach. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
1																																								
2																																							
3																																							
4																																							
5																																							
6																																							

	Vacuum	Blower	Drive Pulleys	Waste Can and Bag	Throttle Valve	Cams and Rollers	Cylinders A	Cylinders B	Presser Lever Inserts: Upper	Presser Lever Inserts: Back	Presser Lever Inserts: Lower	Rotary Brushes	Timer	Gear Guards	Belts: Conveyor A	Belts: Conveyor B	Belts: Elevator A	Belts: Elevator B	Elevator Drive Chain	Pulley Stand Assembly	Safety Stop	Knotter: Plates: Clamping	Knotter: Plates: Center Grid	Knotter: Shears	Knotter: Fingers: Clamping	Knotter: Fingers: Slack	Knotter: Fingers: Locating	Knotter: Fingers: Paralleling	Knotter: Fingers: Throw Out	Knotter: Fingers: Looping Hook	Knotter: Fingers: Looping Needle	Knotter: Studs: Locating Finger Roller	Knotter: Studs: Shear Arm Roller	Knotter: Cam Stud Sleeve	Knotter: Needle Arm Roller	Tension Springs	Shafts: Rocker	Shafts: 3-Bay Rocker	Shafts: Spindle Arm
LEGEND 1—Satisfactory 2—Worn 3—Needs Servicing	3—Too Strong 4—Weak	3—Oil Low 4—Oil Gage Glass Dirty	3—Too Large 4—Too Small	3—Dirty 4—Bad Gasket 5—Hole in Bag	3—Stuck 4—Stopped Up	3—Worn 4—Stuck	3—Rough Surfaced 4—Loose Head Bolts 5—Waste Wrapped		3—Missing 4—Worn 5—Needs Replacing			3—Dirty 4—Worn	3—Not Working 4—Cover Missing	3—Loose 4—Missing	3—Laps Missing 4—Badly Worn 5—Slack 6—Bad Lacing				3—Tight 4—Loose 5—Worn Sprocket 6—Worn Bearings	3—Worn Bearings 4—Worn Washers 5—Worn Shafts	3—Damaged 4—Improperly Set 5—Doesn't Work	3—Loose 4—Tight	3—Dirty 4—Knicked	3—Dull 4—Worn 5—Set Too Tightly	3—Badly Worn 4—Tight 5—Loose 6—Bent 7—Broken 8—Dull 9—Barbed							3—Worn Badly 4—Broken			3—Stuck 4—Flat Sided	3—Too Strong 4—Too Weak	3—Studs Worn or Broken 4—Worn Bushings 5—Broken		

ABBOTT WINDER MAINTENANCE INSPECTION

DIVISION_____ MILL NO._____

ABBOTT WINDER INDIVIDUAL HEAD LEGEND
1—Satisfactory
2—Upright not plumb
3—Upright welded
4—Package arm loose
5—Upright rollers stuck
6—Cam dog worn
7—End play in thread traverse cam
8—Winding cobwebbed end package
9—Won't trip when end breaks or runs out
10—Won't contact roll and run
11—Bobbin peg out of line
12—Support roll stuck
13—Missing head
14—Tension guide wire out of line
15—Tension guide bracket out of line
17—Balloon spring broken
18—Pressure roll spring broken
19—Oil reservoir empty or low
20—Slub catcher clogged
21—Line pin loose
22—Pressure roll clogged
23—Pressure roll worn flat sided
24—Guide roller stuck or flat sided
25—Balloon guide missing
26—Balloon guide bent

INDIVIDUAL HEAD NUMBERS

Machine Nos.	1	2	3	4	5	6	7	8	9	10	11	12	15	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35

Fig. 2. *Spindle inspection is the heart of the maintenance of Abbott winders.*

THOROUGH MACHINE INSPECTIONS are the heart of any good maintenance program, but successful inspections require effective forms. Such forms not only provide a record to show where repairs and replacements are required but, when properly made up, they serve as a guide to the inspector in making sure he adequately covers each machine. Forms used on yarn preparation machinery at Dan River Mills were pictured and described in a previous article (TEXTILE WORLD, July, 1946). This article will illustrate the forms used for inspecting winders, warpers, and slashers. Since, on these machines, the yarns are wound in larger packages for further processing and all drafting and cleaning operations are completed, most of the remaining equipment to be inspected is divided by make.

SPOOLERS AND WINDERS. On all spoolers and winders, to produce locative reports, the spindles are numbered.

On Barber-Colman spoolers, using the form shown in Fig. 1, individual spindles are listed, with twenty-five possible defects to each winding unit. Complete coverage of spindles allows any competent mechanic to follow the report. Observation of the individual spindles for their condition is only a part of this inspection, however. On the lower part of the page there are 24 other items. Adequate inspection of the traveler and knotter is an aid in spooling yarn at higher efficiency as well as producing fewer knots, tangled bobbins, or cobwebbed cheeses.

Every part of the machine is examined and inspected for any possible de-

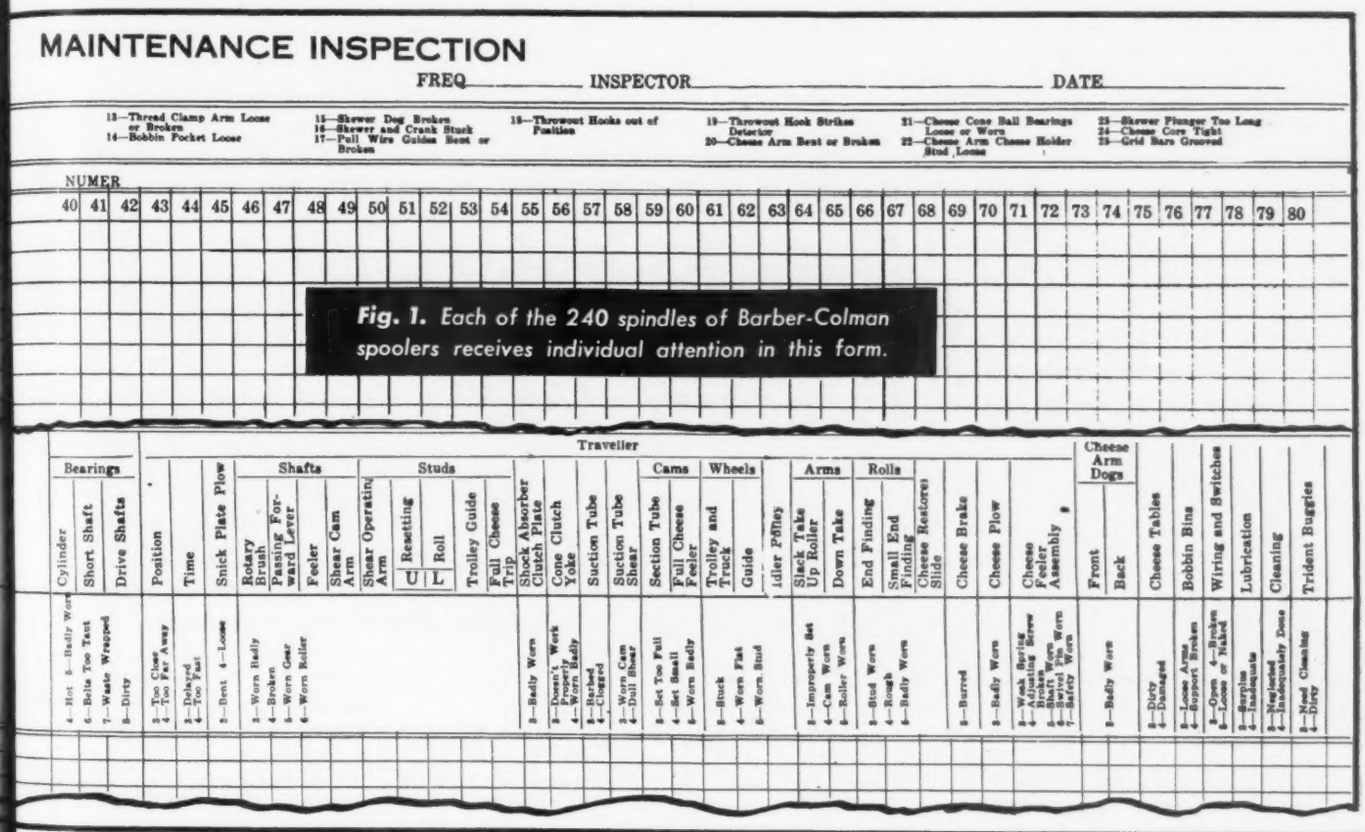
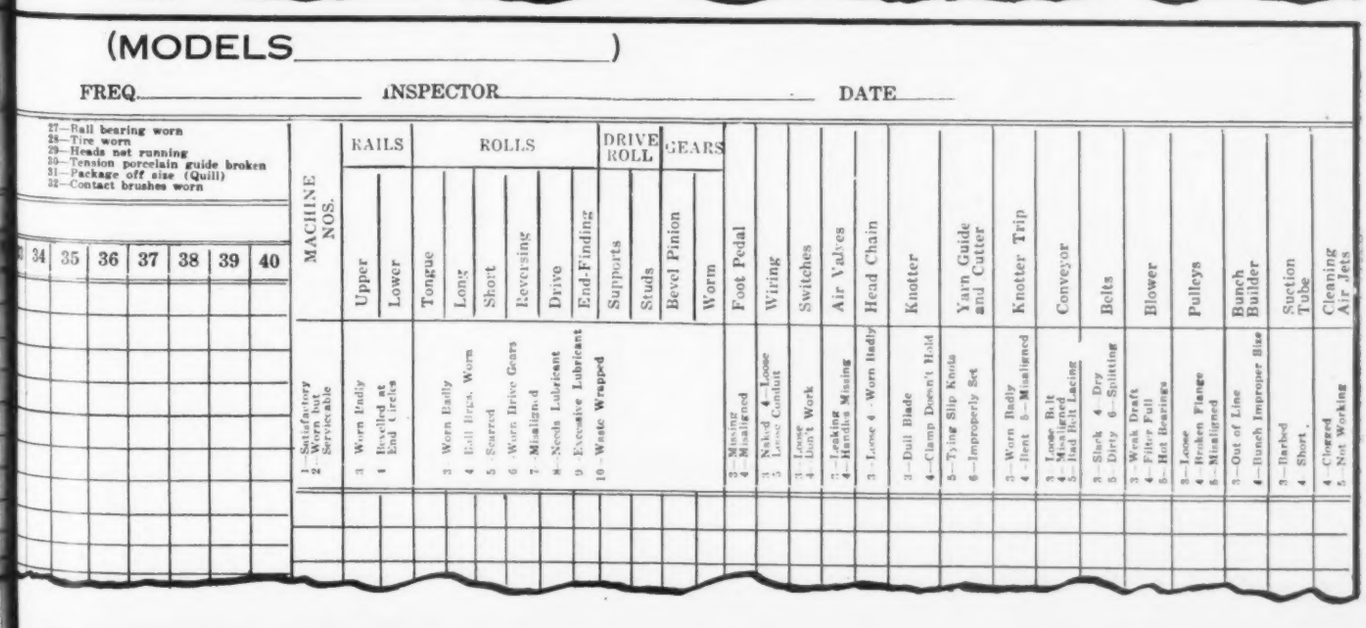


Fig. 1. Each of the 240 spindles of Barber-Colman spoolers receives individual attention in this form.



FOSTER AND ROTO-CONER WINDER MAINTENANCE INSPECTION

DIVISION_____ MILL NO._____ FREQ._____ INSPECTOR_____

INDIVIDUAL SPINDLE LEGEND

1 Satisfactory
2 Worn but Serviceable
3 Out of Line
4 Traverse Cam Worn or Broken
5 Traverse Dog Worn or Broken
6 Traverse Thread Guide Stud Broken
7 Traverse Thread Guide Worn or Broken
8 Package Holder Missing
9 Package Holder Spindle Worn
10 Stop Motion Pin Worn
11 Thread Bar Out of Line
12 Rolls for Guide Worn
13 Package Spindle Arm Loose
14 Rocker Broken
15 Rocker Out of Line
16 Tilting Yoke Loose
17 Missing Package Spindle
18 Sizing Indicator Not Working
19 Sizing Indicator Broken Off
20 Bobbin Holder Loose or Broken
21 Bobbin Holder Missing
22 Bobbin Holder Misaligned
23 Tilting Yoke Rockets Loose
24 Socket Friction Spring Missing or Loose
25 Tension Pins—Grooved or Missing
26 Tension Assembly Eye Grooved
27 Yarn Guard Off
28 Breakage Levers Out of Line
29 Package Holder Loose
30 Breakage Lever Clamp Loose
31 Package Sleeve Spring Worn
32 Bearing Cap Sleeve Missing
33 Breakage Lever Pawl Worn
34 Starter Knob Missing
35 Sizing Trapper—Missing or Out of Adjustment
36 Stitch Catcher Missing
37 Package Off Size

Machine Nos.	Type	INDIVIDUAL SPINDLE NUMBERS																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
		41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74

Fig. 3. *Spindles on machines should be numbered to coincide with inspection form.*

UNIVERSAL WINDER MAINTENANCE INSPECTION

DIVISION_____ MILL NO._____ DEPT._____ INSPECTOR_____ DATE_____

Machine No.	Model	Motor	Gears: Drive	Gears: Cam Shaft	Shafts and Bearings: Drive	Shafts and Bearings: Cam	Shafts and Bearings: Rocker	Clutch	Belt Guard	Belting	Lubrication	Cams	Cleaning
LEGEND	1—Satisfactory 2—Worn but Serviceable 3—Stand Loose 4—Out of Line	3—Badly Worn 4—Broken Teeth 5—Improperly Set 6—Needs Lubricant	3—Badly Worn 4—Sleeve Worn 5—Cap Nut Loose 6—Oil Ring Loose 7—Packing and Nut Loose		3—Badly Worn 4—Spring Loose	3—Loose 4—Broken 5—Missing	3—Bad Condition 4—Bad Lacing	3—Inadequate 4—Surplus	3—Badly Worn 4—Worn Roller 5—Worn Roller	3—Inadequate			

INDIVIDUAL SPINDLE NUMBERS

Legend for Individual Spindles:—

1—Satisfactory
2—Tension Guides Grooved
3—Tension Guides Loose
4—Package Arm Loose
5—Supply Shelf Missing
6—Spindle Bent
7—Cop Formers Out of Adjustment
8—Sizing Levers Bent or Broken
9—Bunch Builder Loose
10—Compensator Stop Misaligned
11—Traverse Bar Bearings Worn
12—Bracket Adjuster Broken
13—Bunch Builder Cover Missing
14—Package Spindles Misaligned
15—Compensator Wheel Bushing Worn
16—Support Bushings Worn or Loose
17—Gainer Gears Worn
18—Pawl Arm Adjuster Loose
19—Spindle Gear Worn
20—Pig Tail Thread Guide Broken
21—Pig Tail Thread Guide Missing
22—Thread Guides Grooved
23—Worn Pawl
24—Incorrect Tension Weights
25—Oil Hole Return Hole Clogged
26—Pressure Arm Rods Loose
27—End Stop Bars Worn
28—Gainer Belt Missing
29—Cam Shaft Bent
30—Weight Pin Missing
31—Thread Guide Plate Worn
32—Traverse Fueler Dog Lever Loose—Worn
33—Traverse Frame Dog Badly Worn
34—Traverse Cam Bar Roll Worn
35—Traverse Cam Worn
36—Cam Shaft Bushing Worn or Loose
37—Spindle Bushing Worn
38—Starting Lever—Pin Loose or Worn
39—Spindle Adjusting Screw Missing
40—Tube Holder Screw Threads Stripped

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

Fig. 4. *One form is possible for use in inspecting Universal precision cone winders and No. 90 filling winders, due to similarity in construction.*

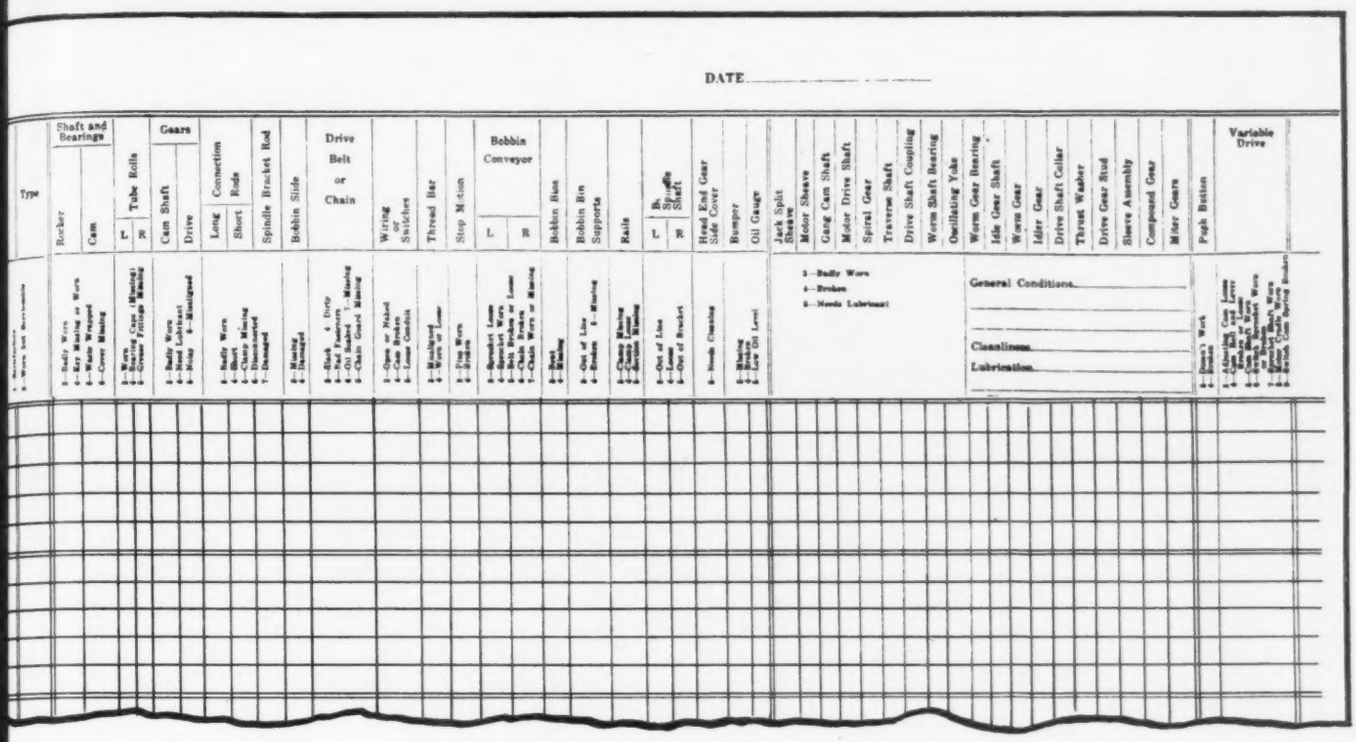
ABBOTT QUILLER MAINTENANCE INSPECTIO

DIVISION_____ MILL NO._____ FLOOR_____ INSPECTOR_____

Machine No.	INDIVIDUAL SPINDLE NUMBERS																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	26	26	27	28	2						
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	5						

LEGEND FOR INDIVIDUAL SPINDLES

1—Satisfactory
2—Needs Alteration
3—Misaligned
4—Missing
5—Thread Guide Eyes Broken or Missing
6 Thread Guide Eyes Grooved
7 Thread Guide Clogged with Waste
8 Thread Guide Broken
9 Thread Guide Roller Pin Loose
10 Thread Guide Roller Pin Missing
11 Bunch Builder Pin or Roll Missing
12—Bunch Builder Pin or Roll Broken
13—Traverse Guide Bar Bent Out of Line
14 Traverse Guide Bar Broken
15—Traverse Guide Bar Loose
16—Traverse Guide Bar Nicked
17—Traverse Rod Bushing Loose
18—Head Missing
19—Short Feed Rack Misaligned
20 Long Feed Rack Misaligned
21—Bobbin Plow Bent
22 Bobbin Plow Misaligned
23 Bobbin Chuck Waste Clogged
24—Bobbin Chuck Cork Insert Missing
25—Naked Wilding
26 Guide Rollers Stuck
27 Guide Rollers Waste Clogged
28 Bobbin Chute Waste Clogged
29 Stop Motion Rod Misaligned
30 Stop Motion Guide Misaligned
31 Stop Motion Rod with End Play
32 Stop Motion Thread Guide Misaligned
33—Tension Yarn Guide Misaligned
34 Incorrect Tension Weight
35 Retaining Disc Waste C
36 Support Rollers Waste C
37 Brush Levers Dogs Stuck
38 Brush Lever Dogs Wast Clogged
39 Brushes Waste Clogged
40 Head Not in Numerical Order



tect, wear, or maladjustment that might cause bad work, poor efficiency, or tend to show a run-down condition.

The form shown in Fig. 2, for Abbott Winders, carries a very thorough break-down of all the parts on these machines on which, like-wise, all the spindles are numbered. When this report gets into the hands of the proper department head or superintendent of maintenance, he can immediately picture the machine's condition. The spindles on each individual winder, as will be noted, have 32 legend keys which cover the general defects very well. Aside from the spindles, there are 27 other items, with legend so worked up as to cover all parts adequately.

Foster winder and Roto-Coner inspections are made using the form shown in Fig. 3, which is adaptable to these two makes of winders. As on the other winders and spoolers, the spindles are numbered to allow the individual units to be more easily checked and followed up after inspection. The individual spindles, as far as possibilities of being out of order are concerned, are covered by 36 legend items.

Important controlling parts are grouped in the lower half of the form shown in Fig. 3. Those that are common to both types of winders are

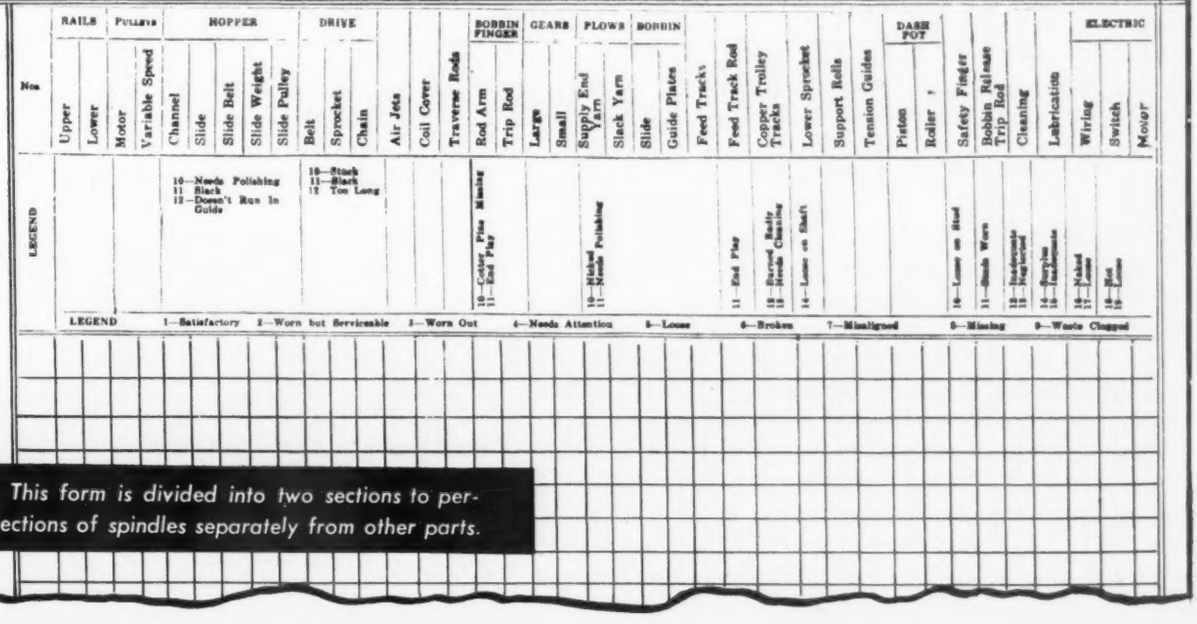
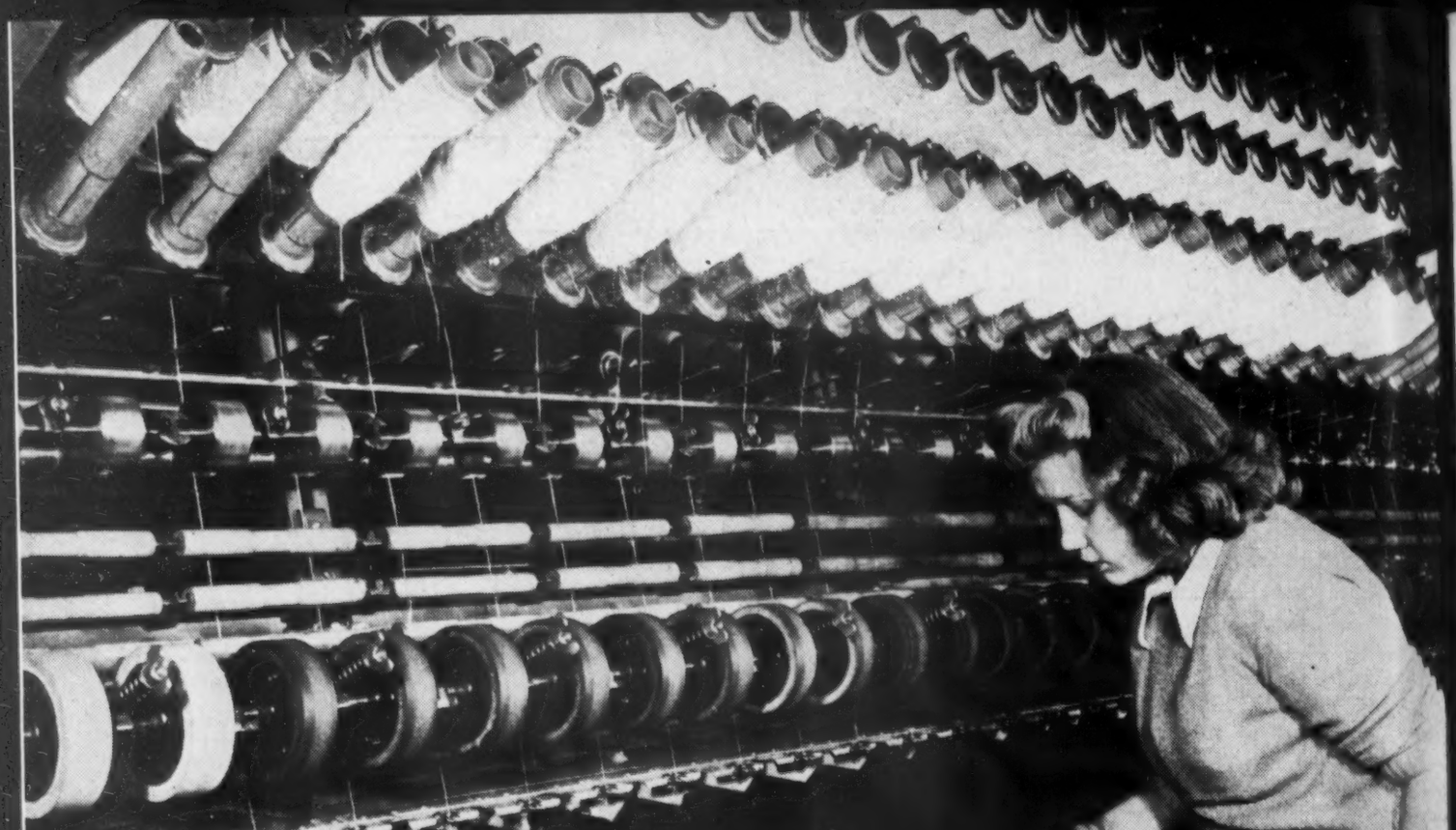


Fig. 5. *This form is divided into two sections to permit inspections of spindles separately from other parts.*



A *Spotless* RECORD

SUN TEXTILE LUBRICANT...

Ends Stains on Work and Floor, Cuts Lubrication Costs

Workers in an Eastern silk mill were constantly seeing spots before their eyes . . . on the work . . . and on the floor. Lubricants were leaking on to the spinning frames.

Half a dozen different products were tried, but there was no improvement until a Sun Engineer recommended a "Job-Proved" Sun product. Immediately after application of Sun's "Job-Proved" Textile Lubricant, the spots had disappeared, and after two years it still gave spotless performance. Spinning frames were running more quietly. Wear and tear were reduced. Less lubricant was being used.

Sun lubricants, especially developed for textile machinery, have proved their quality in hundreds of actual cases like this. For smooth-running, long-lived machines, for uninterrupted work schedules and clean, spotless products let the nearest Sun Engineer specify "Job-Proved" Sun products for your plant.

SUN OIL COMPANY • ***Philadelphia 3, Pa.***

Sponsors of the Sunoco News-Voice of the Air—Lowell Thomas

SUN

SUNOCO

INDUSTRIAL PRODUCTS

put near the center of the report. Forty parts and assemblies of parts grouped in the lower section of the form make checking all the easier for the inspector (and for the man who follows the reports) for correction and repair.

Universal precision cone winders and No. 90 filling winders are similar in construction and are handled very satisfactorily on the form shown in Fig. 4. The same spindle numbering system applied to the other package-forming machinery is used for this equipment. Thirty-nine possible indicators in the legend make this individual-spindle inspection very plain and allow rapid progress while doing the job. Nine other items for group scrutiny, with adequate legends, also simplify the complicated task of doing a thorough inspection job.

For inspecting Abbott quill winders, there has been developed the form shown on Fig. 5, listing individual spindle numbers and 39 deficiencies that might be found on any individual spindle. By listing 35 other parts that may be found below par or needing attention, plus a fully applicable legend, it is possible to do an inspection job that permits the mill to produce yarn packages that run well in the looms.

The form shown in Fig. 6 is designed to permit a thorough inspection of 4 makes of warpers. It was evolved after lengthy study to determine the majority of parts that are found to be out of order from time to time. Seventy-six items in 9 groups, with a complete legend for each group, help to expedite this inspection.

For slasher inspections, the form shown in Fig. 7 is arranged to provide a through breakdown of all slasher parts. When this report goes to the department head all of the defects found can be easily located and rapidly corrected.

"Cylinders and Cylinder Bearings," one of the main headings, takes about one third of the space on the form due to the importance of these parts. Each sub-head is so arranged that there is a column for the left- and right-hand bearing of each cylinder. The remaining parts listed, with 45 legend keys, amply cover the possible defects on slashers, and enable the checker to give a very accurate report with little delay.

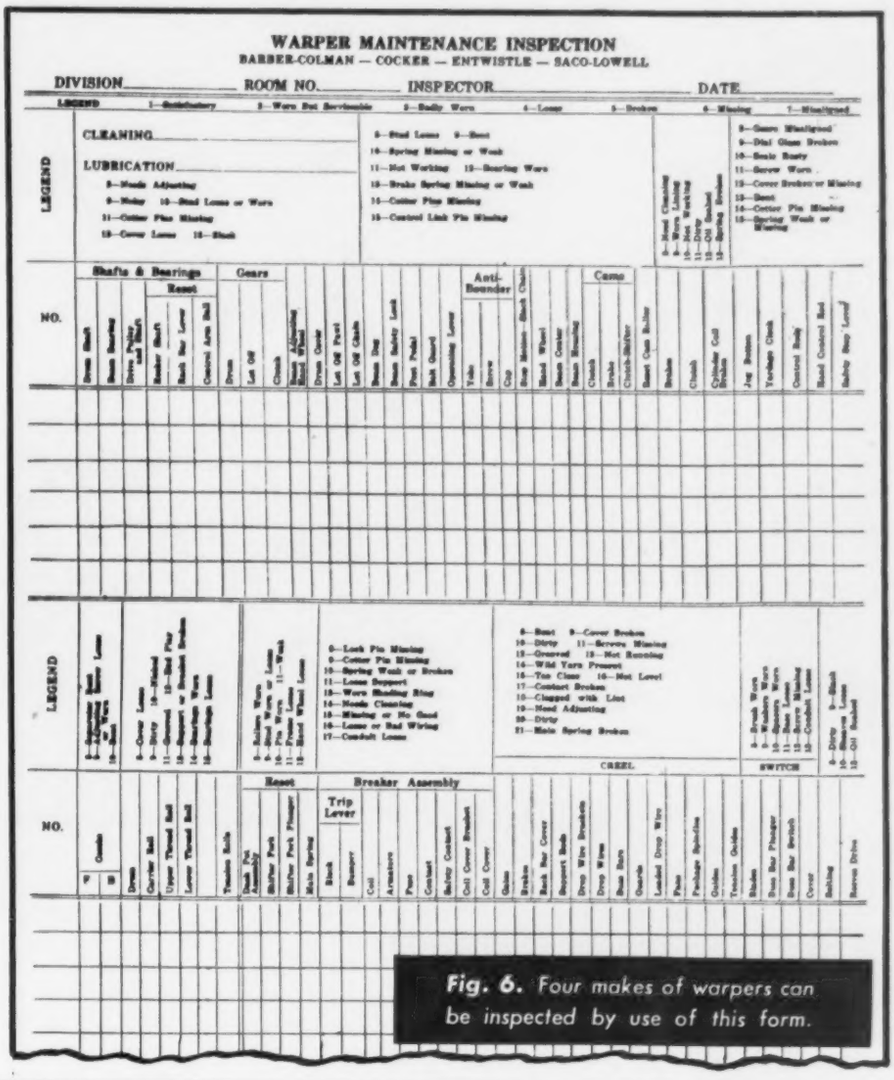


Fig. 6. *Four makes of warpers can be inspected by use of this form.*

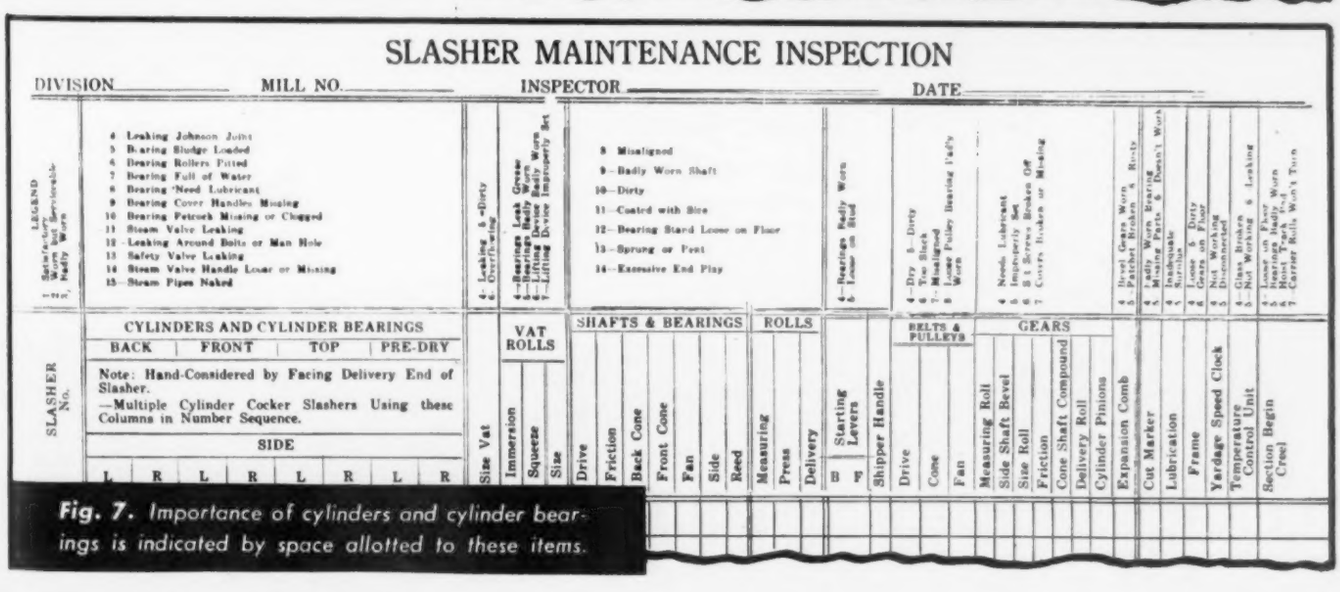


Fig. 7. *Importance of cylinders and cylinder bearings is indicated by space allotted to these items.*

Ryerson—Quick Source for

INLAND 4-WAY FLOOR PLATE

Take a careful look at this close-up of Inland 4-Way Floor Plate. Note the 4-way projections.

Now read of the advantages Inland 4-Way Floor Plate provides:

1. *Safer traction* on walkways, stairways, around machinery and wherever sure footing is important. The 4-way projections grip feet or wheels from every angle. Give 4-way protection against dangerous falls.

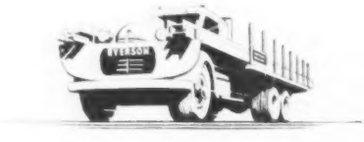
2. *Longer wear.* Inland floor plate is rolled from tough, open hearth steel with high wear resisting qualities.

3. *Great structural strength.* Overlapping projections reinforce the strong, rolled steel lengthwise as well as crosswise giving greater stiffness. And Inland 4-Way Floor Plate has a tensile strength of approximately 55,000 pounds.

Then you get the additional advantage of a continuous pattern that is pleasing in appearance; matches whether laid side to side or end to end and permits sweeping and drainage in four directions.

Inland 4-Way Floor Plate is available for quick delivery from Ryerson Steel-Service Plants, in two pattern sizes and several thicknesses. Write for catalog and samples too if you care for them.

Joseph T. Ryerson & Son, Inc. Steel-Service Plants at: Chicago, Milwaukee, Cleveland, Cincinnati, St. Louis, Detroit, Philadelphia, Pittsburgh, Buffalo, Boston, New York.



NEED TUBING?

Ryerson stocks of seamless mechanical tubing, boiler tubes and Allegheny Stainless tubing are large and complete. Contact nearest Ryerson plant for prompt delivery.

RYERSON STEEL

STYLE SIMPLIFICATION
Ups Knitting Production

HIGHLIGHTS: *Spalding Knitting Mills, Griffin, Ga., reduces 150 styles to 20 styles—Eight basic colors replace 25 color variations—Ribbing-machine output stepped up 30%.*

By E. DALTON WHITE

SIMPLIFICATION OF STYLES and a reduction in the number of color variations have enabled Spalding Knitting Mills, Griffin, Ga., to meet a production schedule which was not possible under conditions prevailing before the war. Reducing 150 active styles with 25 color variations to 20 styles with 8 basic colors, the mill has eliminated complicated pattern designs and has selected color combinations applicable to several styles. In addition to this program of style simplification, the mill has improved production scheduling in order to minimize changes of yarn and needle settings; and the net result has been a substantial increase in over-all production.

A shift from hour- to piece-rate pay on all ribbing machines as an incentive to keep the machines in production has increased ribbing-machine output more than 30%. Other departments have shown proportionate increases.

PREPARATORY STEPS. The first steps in Spalding's new program were directed toward better and more efficient working conditions. A new air-conditioning system was installed for worker comfort and for better control of manufacturing conditions. All pane glass in windows was replaced by glass block and overhead fluorescent fixtures were installed to give more even distribution of light and to eliminate eye strain. Rolling canteen wagons make it possible for refreshments to be served in the departments, so that employees do not have to leave their jobs to go to the central canteen.

The mill has 634 circular knitting machines in operation in the production of infants' and children's socks and children's and misses' anklets from 30/2 to

36 GAGE						
No. needles	136	140	150			
Size hose	8 8½	9 9½	10 10½			
Top, 36/2 CPM; leg, heel, and toe, 30/2 CPM						
48 GAGE						
No. needles	130	144	160	172	188	
Size hose	3½ 5½	6 7½	8 9	9 10½	10 10½	
Top, heel, and toe, 36/2 CPM; leg, 40/2 CPM						
48 GAGE KOMET						
No. needles	168	186	200			
Size hose	7 8½	9 9½	10 10½			
30/2 CPM						
70 GAGE						
No. needles	140	160	180	200	220	240
Size hose	3½	4 5½	6 7½	8 8½	9 9½	10 10½
Top, 40/2 CPM; leg, 60/2 CPM; heel and toe, 50/2 CPM						

Details of gage, numbeer of needles, and yarn number used at Spalding Knitting Mills for the production of various sizes of hose and anklets.

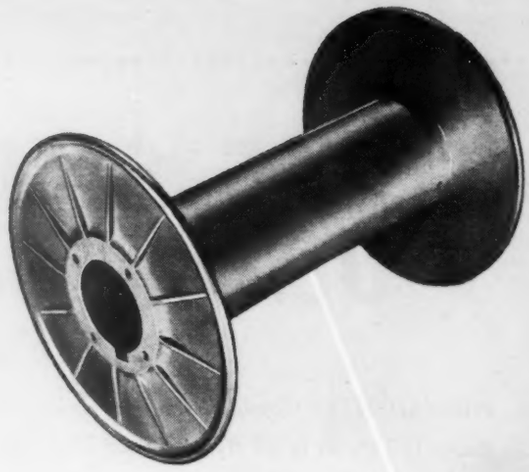
Basic color	Pattern yarn	Striping
White, blue top	Blue, yellow	Blue, bluette, white
White, brown top	Luggage, kelly green	Luggage, beige, white
White, red top	Orange, blue	Red, wine, white
Bluette	Blue, yellow	Blue, bluette, white
Pink	Pink, wine	Rose, pink, white
Yellow	Brown, orange	Gold, yellow, white
Red	Wine, blue	Wine, red, white
Beige	Kelly green, luggage	Luggage, beige, white
Navy	Red, wine	Red, wine, white
Brown	Kelly green, luggage	Luggage, brown, white

A variety of styles is possible with these eight basic colors and pattern and stripe combinations.

On Spalding's ingrain styles, the color patterns are knitted into the hose.

boosting machine speeds —cutting costs

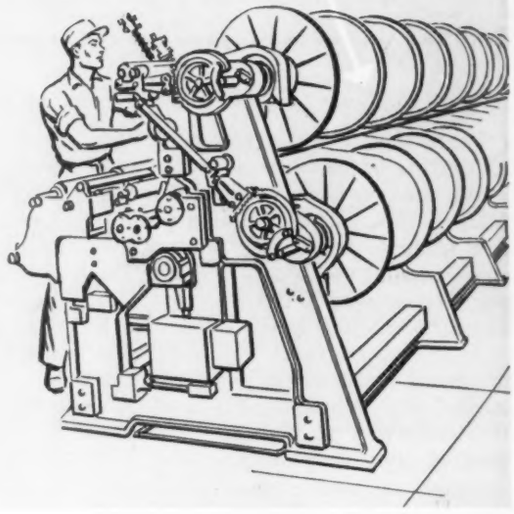
with magnesium warp beams!



Lightweight magnesium is doing a growing job in textile equipment today, and alert mill operators are making it pay dividends in speedier operations and reduced costs.

Take this magnesium warp beam. It's only one of the many magnesium parts that help cut inertia and contribute to perfect synchronization at higher and higher speeds. This beam has lightness, strength, rigidity, balance, and dimensional accuracy. On the job in tricot knitting mills, it means smoothness and precision in the knitting operation and reduced vibration in high speed warping. It means easier handling, too, and lower shipping costs.

Rigidity superior to that of the former steel part is a feature of the cast magnesium head of this beam; the barrel is made from an extruded magnesium tube. Complete information on magnesium and technical aid in its application are available at the nearest Dow office.

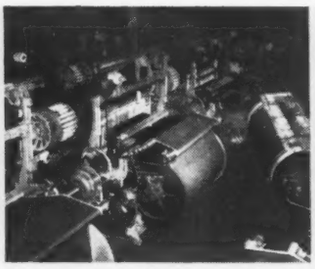


to make products move!

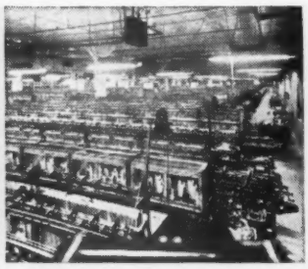
MAGNESIUM

LIGHTEST OF ALL STRUCTURAL METALS

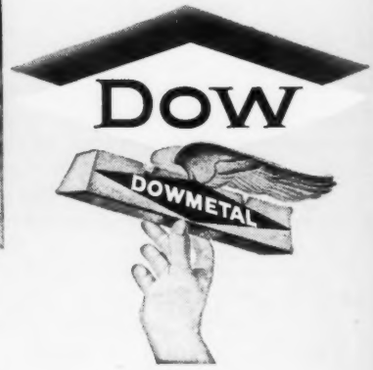
In looms, too, magnesium's lightness saves power, steps up speed, cuts vibration, and contributes to more uniform machine action.



Magnesium reduces maintenance resulting from failures commonly encountered in some loom parts made of nonmetallic materials.



Full-fashioned knitting machines can also attain higher speeds and operate with less vibration when magnesium parts are installed.



MAGNESIUM DIVISION • THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • Boston • Philadelphia • Washington • Cleveland • Detroit • Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

60/2 combed-peeler mercerized yarn. All stock is purchased in yarn form and dyed at the plant. Formerly, the mill used rayon, plaited rayon, a small amount of nylon, mercerized cotton, combed peeler cotton, and some silk yarn. Now, only mercerized cotton is used in the basic 20 styles, with one style made from yarn of 50% wool and 50% rayon.

The eight basic colors retained at Spalding make it possible to obtain strong color combinations on ingrain patterns and have greatly reduced the number of dye operations necessary for color shading. By maintaining the same series of colors on the pattern yarns and changing the basic colors, different styles of color combinations can be obtained with only one reset of a machine.

PRODUCTION PLANNING. In the overall planning of production, a system of control was instituted to ensure fewer machine shut-downs for yarn and needle changes, better inventory balance, and a grouping of customer orders for knitting and vat dyeing. These advantages were attained by setting a controlled-production schedule for 60 to 90 days, based on known machine output and allotments to selling agents. Flexibility is maintained to provide for some shift in styles and sizes to meet consumer demand.

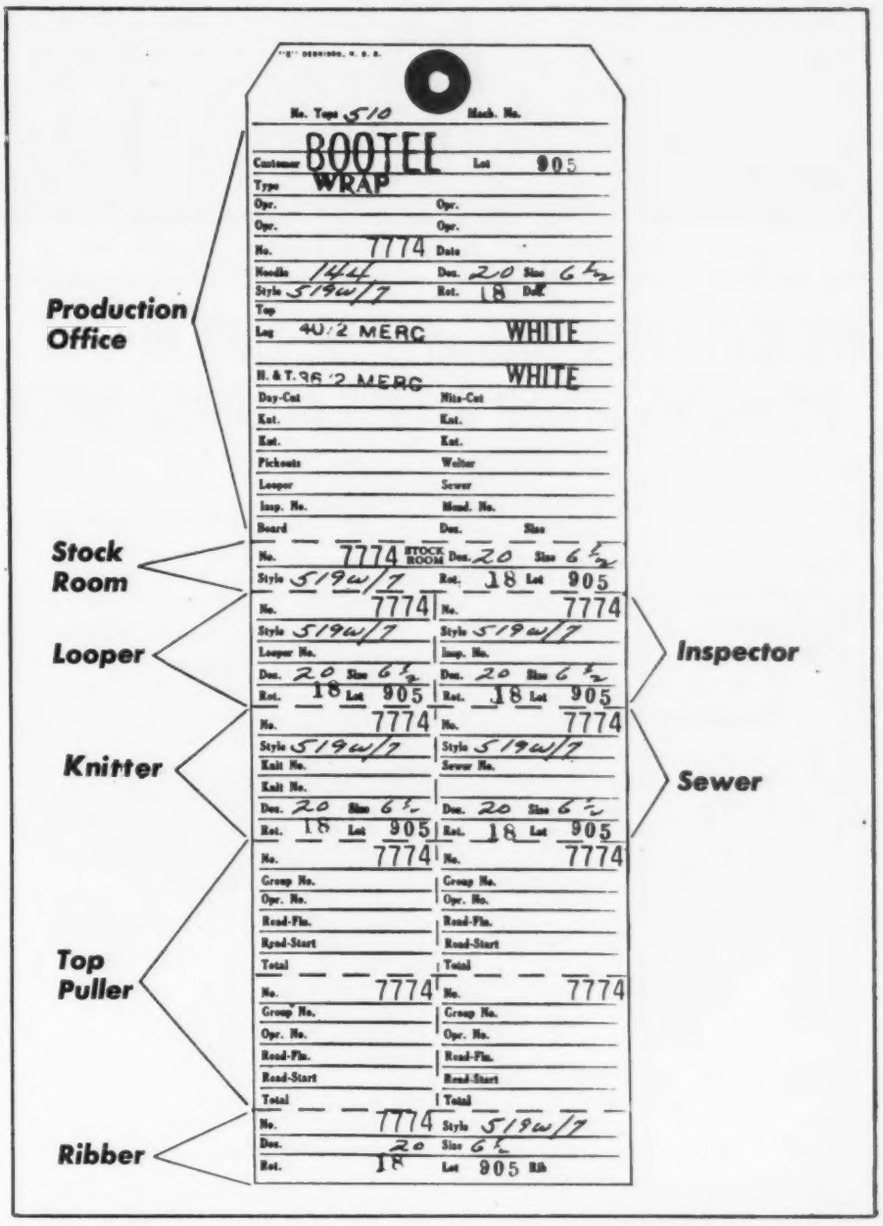
At Spalding Knitting Mills, production orders are classified as ingrain or dip-dye styles. On the ingrain styles, the yarn is dyed on a package-dyeing machine; and the pattern is knitted in the hose. On the dip-dye styles, the gray knitted goods are dyed in bags in a dyeing machine.

When orders are received, they are checked for price, size scale, and color range; and if an order is to be dip dyed, a recap is made of the size scale. This recap is transferred to a knitting book, and from this book knitting orders are issued to keep an equal flow of goods on all sizes. The knitting order is given a run number to ensure proper order rotation and proper sizes.

All clerical operations are accomplished to fit into the control system, even to the invoicing of orders. The form used is designed so that when the goods are ready for shipment, it is necessary only to add parcel-post charges or attach the freight or express bill to the invoice.

DIP-DYE METHOD. On dip-dye numbers, a supply of all sizes is knitted before an order is issued to the dyeing department. A series of customer orders requiring up to approximately 1,500 to

(Continued on page 198)



A master ticket is filled out for each color in a run to be dip dyed. As shown here, Run 15, consisting of 1,118 dozen pairs of Style 950, is to be dyed Spalding's White 30. Of size 9½ there are 224 dozen pairs, and 38 bags will be used to hold these socks during the dyeing process.

Style 950 Run 15 Color White 30

3½	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½
							19	19	64	110	186	224	289	207		
No. of bags →							(3)	(3)	(10)	(16)	(31)	(38)	(49)	(35)		

Total no. dozen 1118 Cols. 9 Lots 9

Customers F.F.W., Brown McDonald, Morgan Lindsay, Sterling

For an ingrain number, the style and construction are written on a master processing ticket for 20 dozen pairs to a size and color. Beginning with ribbing, each operator detaches the stub which applies to her operation, marks it with her identification number, and turns it in to the production office.

RAYON REPORTS

Prepared Monthly by American Viscose Corporation, New York, N. Y. AUGUST, 1946

AVC EMPLOYEES TOLD OF THEIR PART IN PRODUCING BETTER RAYONS AT LOWER PRICES

As an additional step in its constant program to produce better rayons at lower prices, American Viscose Corporation is now emphasizing to its employees the importance of this program.

Three channels are being used to put across this message. One is through newspaper advertisements in the seven plant towns in three states where AVC employs more than 20,000 men and women. These ads stress the theme: "Our Aim: Better Rayons at Lower Prices." They bring out the fact that steady jobs at good pay are closely linked to achievement of this goal.

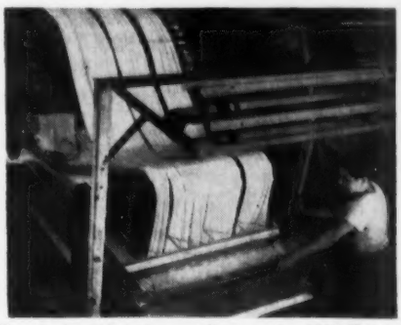
A second channel for the program is a booklet, "What Happens to the Rayon We Make?" copies of which have been given to all employees. It details pictorially and in type many of the important end products of rayon, ranging from stockings, slips, lingerie, all the way to play clothes for children and work clothes for men and women.

Bulletin boards and displays are utilized in company plants as the third channel.

Typical advertisement of a series appearing in newspapers in AVC plant towns. Right, reproduction of booklet addressed to AVC employees. Both are part of a program telling company employees how important it is to them, as well as to customers, to produce rayon of highest possible quality.

BOOKLET ON HANDLING RAYON CAKES RECEIVES WIDESPREAD ACCEPTANCE

Designed for the textile industry, a booklet entitled "The Handling of Rayon Cakes" prepared by the AVC Textile Research Department, has received highly favorable comments on all sides. Requests for copies may be addressed to American Viscose Corporation, 350 Fifth Avenue, New York 1, N. Y.



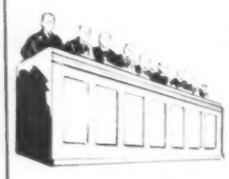
Box dyeing fabric in rope form at the AVC Textile Research Department at Marcus Hook, Pa. The department is equipped with commercial size machinery for practically every operation in the textile industry.

NEW GIRL SCOUT BLOUSE USES "CROWN" TESTED FABRIC

A simple rayon sports blouse for senior Girl Scouts and Girl Scout Leaders now bears the CROWN Tested "Green Light" Tag vouchsafing its washability. This identification, like the "Amber Light" for hand washables and the "Red Light" for dry cleanable-only apparel, is awarded only to fabrics containing CROWN rayon after they have passed the CROWN Tests for serviceability.

RAYON . . . 20 YEARS AGO

This year, men-about-town are wearing—of all things—underwear in colored checks and polka dots! Retailers report such garments, in rayon mixtures, "the most attractive merchandise handled."



In upholding the Federal Trade Commission's right "to protect the consuming public," in the "Philippine Mahogany cases," the U.S. Supreme Court has cheered those favoring the F.T.C.—endorsed word "Rayon."

A British authority declares that the use of rayon is expanding the textile industry without restricting other fibers. Both cotton and silk are benefiting in textile fields that rayon has helped open up.

MAKE USE OF 4-PLY SERVICE

1 PRODUCT RESEARCH
Helps you get the right yarn or fiber.

2 FABRIC DEVELOPMENT
Helps you design new fabrics.

3 TEXTILE RESEARCH
Helps solve production and finishing problems.

4 "CROWN*" TESTED
Helps provide scientific selling facts.

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Offices: 350 Fifth Avenue, New York 1, N.Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.; Washington, D. C.; Wilmington, Del.

Plants at: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

CROWN TESTED RAYON FABRIC

*Reg. U. S. Pat. Off.

ADV.

NEW TOOLS Help the Fixer In Reaming and Grinding

HIGHLIGHTS: *Rotary files for use in portable drill or drill-press aid fitting job on pickers of all kinds—Straight side or taper types are available—Small emery wheel on drill-shank smooths rough metal.*

By H. E. WENRICH

A NEW SET OF TOOLS is finding its way into textile-mechanics' toolboxes. These are reaming and grinding gadgets of various shapes and materials for many purposes. The rotary file type offers a quick method for cleaning or enlarging holes in metal, wood, or other solid materials, as well as for cleaning, routing, or cutting outer surfaces. They may be used in a portable drill or drill-press. Various types of these rotary files or grinders can be used advantageously in the weave room. Those illustrated are merely a few out of a large number.

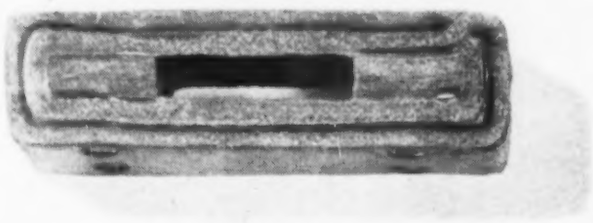
When broken pickers require replacement, the new pickers going into the box should first be smoothed and polished by an emery wheel and buffer to prevent jerk-ins. Some pickers must be forced over the picker stick and attached with screws. Other pickers, as shown in Fig. 1, are intended to work loosely. These are the types commonly used on bobbin-changing looms. If a loose-type picker is forced over the picker stick, within a few hours the sides will bulge out and cause the picker to bind and will result in numerous loom bang-offs. The life of the picker is also shortened and rough edges will become conspicuous. To enlarge the picker hole, place the rotary file (Fig. 2) in the drill-press and put on full speed. If the leather picker hole has an $\frac{11}{32}$-in. opening to fit a stick $\frac{3}{8}$-in. thick, the rotary file can measure $\frac{3}{8}$ in. in diameter.

Press the picker up on the revolving tool. Hold firmly, and the leather picker will rise the full length of the mandrel against the chuck. Move the picker back and forth several times until the leather has been cut free and the hole enlarged. With a fine-tooth cutter, the surface is usually left clean and the picker merely needs polishing on a cloth buffing wheel to produce the completed job shown below in Fig 1. This picker will actually give twice the service of unfiled pickers, since the side walls remain firmer longer.

REAMER-TYPE FILE. Some fixers prefer reaming a shuttle-point hole in the leather picker previous to replacement. The reamer-type rotary file (Fig. 3) will make a quick job of forming this hole to any desired depth. Hold the picker on end on the drill table and lower the revolving cutter to center of picker face. A sharp, clean hole is easily formed.

The writer has long preferred to allow the shuttle to find and form its own hole in the leather picker face. But lately, on higher-speed looms, the conviction that a pre-formed hole is best, has proved itself. The shuttle-point hole should be nearly as deep as the shuttle-point length and approximately the same diameter. This will allow the shuttle to come into the new picker to nearly the same depth as with the old picker just removed. Without the small pointed hole in the picker face, the shuttle will strike more sharply and will usually rebound slightly. Adjustments

(Continued on page 190)



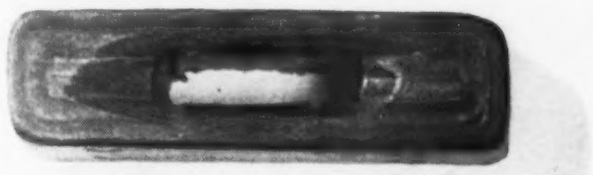


Fig. 1 (Above) Leather picker before fitting. (Below) Same, after hole has been enlarged by rotary file of proper size.

Fig. 2. Rotary file suitable for use in ordinary drill.

Fiv. 3. Taper-type rotary file for reaming shuttle-point hole in picker.

Fig. 4. Emery wheel, adapted for use in drill, for smoothing rough metal parts.

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Off-Pick Hazard Is Chief Problem In TERRY MOTION

HIGHLIGHTS: *Terry motion provides means to hold back the loom reed for loose picks and to lock it in normal position for fast picks—Two principal patents are involved; one British, one American—Proportion of loop yarn to backing yarn is controlled by reed opening and let-off ratchet.*

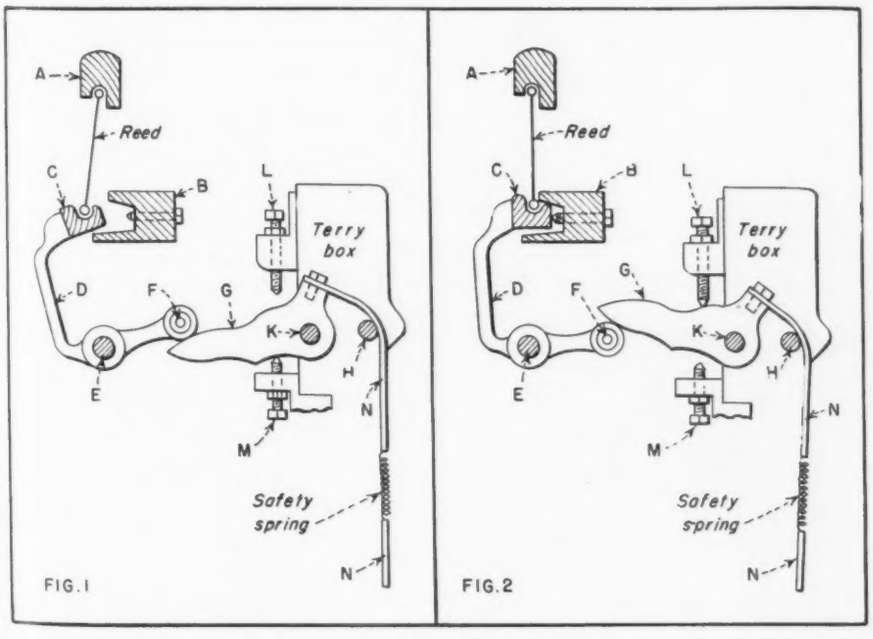
By T. HARGREAVES

THE TERRY MOTION is a simple mechanism, yet it has been the subject of many patents. Essentially, it is the method of holding back the reed while the two loose picks are inserted, locking it in its normal position when the third or fast pick has been put in, and beating up the three picks together.

Two well-known examples of terry motions may be found in a patent held by a British firm of loom-makers and in a patent held by Crompton & Knowles Loom Works, Worcester, Mass.

The British make is operated by a cam on the ordinary bottom-shaft of the loom, but is controlled from the dobby. This prevents the loom from going "off pick" when it returns to terry weave after having used some other fancy weave for border adornment. Going "off pick" means that the reed is locked in the fast-pick position when it should be held back for a loose pick, or vice versa. It arises when the dobby pattern chain has become out of time with the timing of the terry motion.

Figs. 1 and 2 illustrate the principle of the British terry motion. In Fig. 1, the reed is in the open, held back, or loose position. In Fig. 2, it is in the forward position, securely locked for the fast pick.



Figs. 1 and 2. British terry motion showing the reed held open (Fig. 1) and locked (Fig. 2). Letters shown are referred to in the text.

The mechanism operates as follows (*A* and *B* represent the woodwork of the lay, *C* is the reed pocket):

On each of the lay swords is bolted a bearing. These carry a shaft *E* on which there are several arms *D* to which the reed pocket *C* is attached. The arms are keyed to the shaft. One of the arms carries an extension, at the end of which is an anti-friction bowl *F*.

Bolted to the loom framework is the terry box. Fulcrumed on a stud *K* in the terry box is a shoe-shaped cam *G* made of steel or malleable iron. Over and under this cam are the controlling set screws *L* and *M*, each firmly held in position by lock nuts.

These set-screws have an important function in the process. Screw *L*, when once fixed, is in a permanent position. It governs the height to which cam *G* can be lifted. When set correctly, the reed is locked in the fast-pick position and also is in correct line in relation to the shuttle-box back. This fast-pick position is reached when bowl *F* passes under cam *G* and this cam is in contact with screw *L* (Fig. 2).

The height of the terry loop, or the distance the reed is held back for the loose picks, is governed by screw *M*. When cam *G* is lifted by screw *M*, then the reed is held back more or less as screw *M* is raised or lowered.

SWIVELLING MOTION. Cam *G* receives its swivelling motion through a leather-strap connection *N* and a safety spiral spring operated by a lever which in turn receives its motion for a dual control—a cam and the dobby (Fig. 3). In Figs. 1 and 2, *H* represents a small revolving bowl to allow free movement to the strap. If the strap is pulled, it causes the nose of cam *G* to rise; and, as the lay is pulled forward, bowl *F* passes underneath. This closes the reed to the fast-pick position (Fig. 2).

If the strap is not pulled, however, the weight of the cam causes it to take the lower position. As the lay moves forward the bowl passes over the cam

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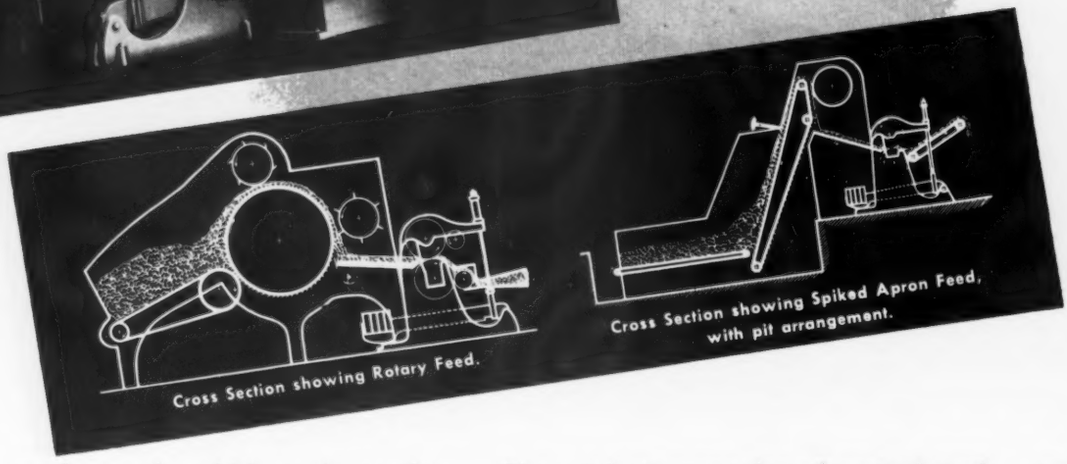


Cross Section showing Rotary Feed.

Cross Section showing Spiked Apron Feed, with pit arrangement.

Here is a modern unit, which replaces the laborious intermittent method of centrifugal extracting. This more recent and highly efficient method not only assures you higher production, but actually improves the quality of the stock being processed.

Here are the highlights of its operation. An automatic feed delivers a uniform amount of wet stock to the squeeze rolls. A vibrating plate, arranged between the self-feed and the squeeze rolls, feeds the layer of wet stock into the nip of the rolls in such a manner as to prevent droppage of wet stock or bunching of the material as it goes through the rolls.

There is better opening of matted stock . . . wet spots in dried stock are eliminated . . . production is constant and very high . . . time losses are virtually eliminated . . . power and labor requirements are kept to a minimum.

This equipment is actually in a class by itself. The initial cost is not low. However, when you consider that with it you can combine increased production with improved quality—it is obvious that the Proctor Continuous Extracting Unit will pay for itself many times over. Even with somewhat higher initial costs, viewed over the long run, Proctor equipment is actually the least expensive.

Proctor & Schwartz, Inc. *Philadelphia 20, Pa.*

and gently opens the reed to the loose-pick position. (Fig. 1).

On each of two other arms, *D* projections carry hooks, instead of the bowl. To these hooks are connected strong springs which exert a pull sufficient to return the reed to the correct line of the box-backs while the shuttle is in transit. These springs also keep the bowl in steady contact with the cam. Without this steady contact, uneven terry loops would result. The timing and movement of the cam is illustrated in Fig. 3.

On the bottom drive-shaft of the loom, a terry cam is attached which makes one complete revolution for each two picks. This terry cam has two lifting points, one for each pick, which raise the lever on each pick. This lift is just sufficient to cause the curved part of the lever to touch the curved part of the companion lever. No action takes place, because of the space between the two levers. This leaves cam *G* in the loose-pick position (Fig. 1). For the fast pick (Fig. 2), the connection to dobby jack is raised by a pull from the jack. This brings the plug into the space between the two levers.

The terry cam raises the lever, presses against the plug which in turn presses against the other lever and causes a movement to strap *N* (Figs. 1 and 2). This movement changes the position of Cam *G* in the terry box (as shown in Fig. 2, the fast-pick position).

ADVANTAGES OUTLINED. The advantage of this dual control is that perfect timing is obtained from the terry cam, and freedom of selection from the dobby control. By pegging the dobby pattern-chain, the fast pick always is synchronized, and off-pick troubles are avoided.

Also, the terry to be woven may be of 2, 3, 4, 5, or 6 picks instead of the customary 3-pick weave, should the designer desire such variations, without involving any change in the terry-motion mechanism.

Plain cloth or border, which requires the picks to be beaten up as they are inserted, is obtained by pegging the dobby pattern chain to lift the plug into position for each pick. The British method involves use of three (pattern) cylinders in the dobby—No. 1 for terry weave, No. 2 for plain weave, and No. 3 for fancy border weaves.

AMERICAN MECHANISM. The terry motion made by Crompton & Knowles is an efficient, no-trouble mechanism receiving its initial movement from a terry cam working on a counter-shaft which completes one revolution for each three picks.

This mechanism is so simply constructed that the movement may be shown in two sketches (Figs. 4 and 5).

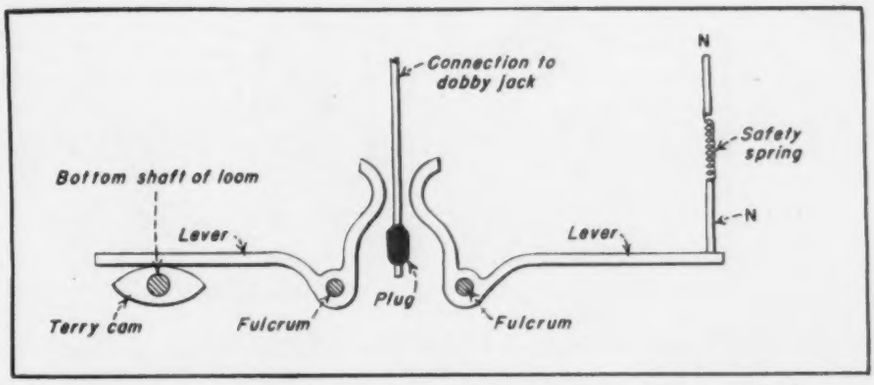


Fig. 3. The terry cam raises the lever over it, and the plug being raised at the same time causes the lever at the right to be moved to actuate part N.

A downward pressure by the terry cam on the rocker lever causes connecting-rod *H-1* to be pulled down. The mechanism, fulcrumed at *D*, then swings outward and brings the reed to the loose-pick position (Fig. 5). *H-1*, the lower half of *H-2*, is a slotted lever which allows for slight variation in the adjustment of the mechanism.

The instructions issued by Crompton & Knowles, fully explain the mechanism. These instructions are:

Step 1—With lay at the front center, set terry cam so that the center line through its low point coincides with the center of the cam lever roll (Fig. 4).

Step 2—With set-screws *B* loose, turn adjusting screw *A* to align the reed.

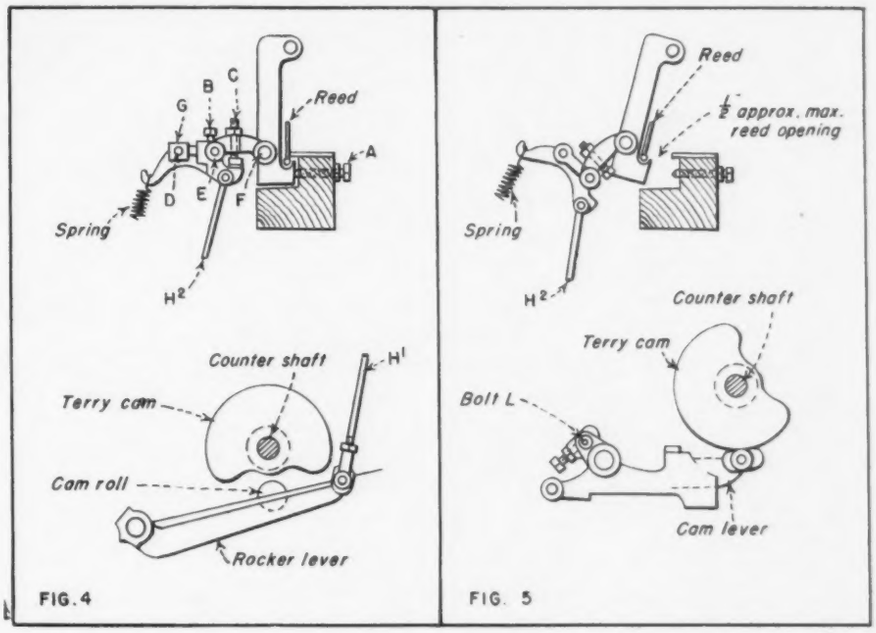
Step 3—Adjust screws *C* until the three centers *D*, *E*, and *F* are in line.

Step 4—Locate studs *G* so that the backstay is bearing against the screws *A*, and tighten set-screws *B* (Fig. 4). Care must be taken not to cramp the backstay.

Step 5—After adjusting connectors *H* to make them of equal length, assemble them to the rocker levers. (Note: The mechanism is fitted to both ends of the reed pocket.)

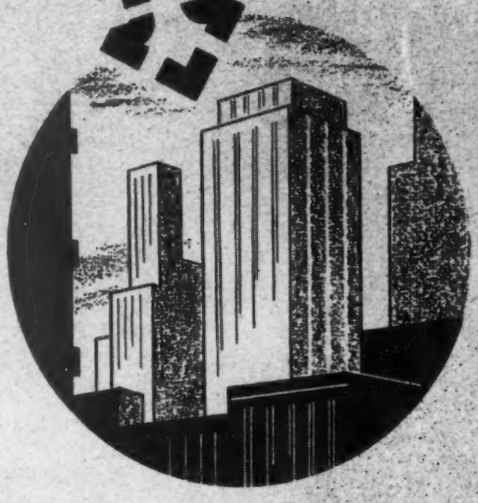
Step 6—Turn lay to next pick. After loosening the bolt *L* in the hub of the cam lever, turn set-screw *K* until the desired reed opening is obtained. Turn clockwise for less opening, counter-clockwise for more opening. The maximum opening possible is about 1¼ in. (Fig. 5). Tighten bolt in cam lever and recheck opening.

LIMITED TO THREE-PICK WEAVE. This type of terry motion is limited to the three-pick terry weave. As it is cam-controlled, care must be taken by the designer to see that all picks in the weaves in the towel pattern be divisible by six. This applies also to the number



Figs. 4 and 5. Essential parts of the Crompton & Knowles terry motion show it to be simpler than the British.

FROM MILL TO MARKET



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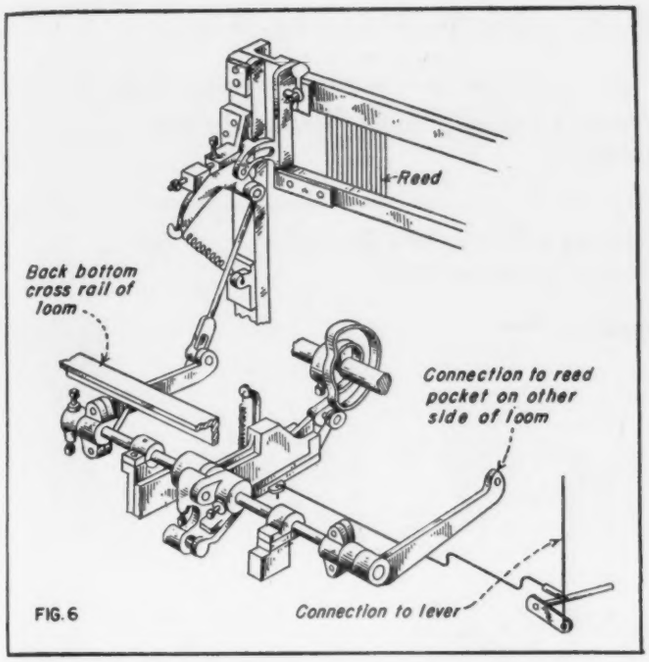

Fig. 6. Escape mechanism, at extreme right, can be used to neutralize the terry motion when some other weave is wanted.

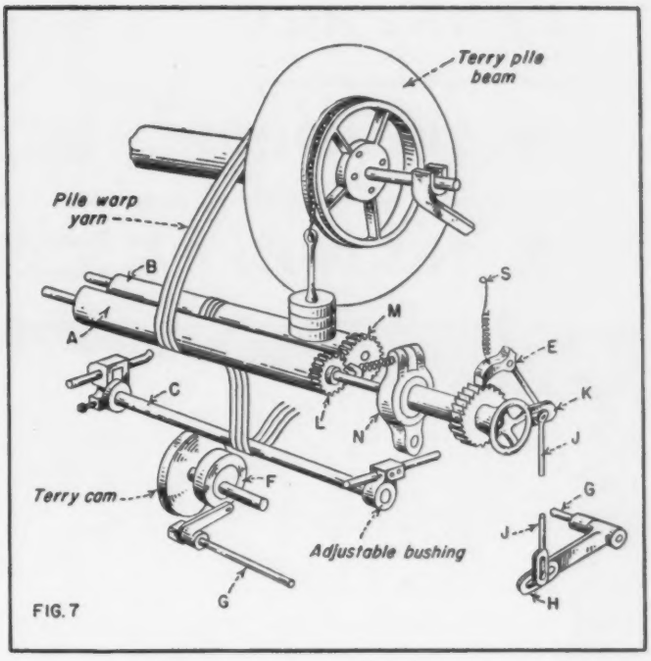

Fig. 7. Pile beam let-off, controlled by set of rollers, is essential to the terry weave. Ratchet can move one to three teeth as desired.

of picks used in the terry body portion of the towel. Otherwise off-pick troubles will occur.

The general assembly of this terry motion and its connections from the terry cam to the swinging reed pocket is shown in Fig. 6. The "connection to lever," which is operated by an indicating finger controlled by a pattern chain, is used to operate the escape mechanism which neutralizes the movement of the lever operated by the terry cam. This allows each pick to be beaten up separately, and is used when other than terry weave is desired, such as when weaving borders on some designs.

TERRY BEAM LET-OFF. There is an extremely important adjunct to the terry motion outlined above. That is the terry-beam let-off, the main function of which is to control the weight of the cloth and insure the standard desired for each quality.

This mechanism is arranged so that it will deliver the exact amount of pile warp desired to form a loop of terry at the instant the three picks are driven forward to the fell of the cloth, forming the terry loop.

This let-off is determined by the number of teeth in the let-off gear, which is a form of ratchet wheel. However, it is incorrect to assume that, when the correct ratchet has been put on, perfect terry will result. Many persons have the mistaken idea that to cure other evils of terry weaving all they have to do is to increase the reed opening on the loosepicks and let the terry let-off drag back the over-long terry loop that such a large opening will form. This evil can be remedied without resorting to such practices, and will be described in a later article. For the moment, however, the chief concern is with the formation of perfect terry of a predetermined length of loop to suit the quality being woven.

TECHNIQUE DEMONSTRATED. Assume that the pile warp has been pulled out of 1 in. of the woven cloth and, when measured, was found to total 5 in. This cloth then contains a 5-1 loop, meaning that the let-off on the pile warp should deliver 5 in. of yarn for every 1 in. of

(Continued on page 188)

Fig. 8. Reed Openings
(In fractions of an inch)

Pick Gear	Proportion of terry to 1 in. of cloth			
	3	4	5	6
30	3/10	2/5	1/2	3/5
32	9/32	3/8	15/32	18/32
34	9/34	12/34	15/34	18/34
36	1/4	12/36	15/36	1/2
38		12/38	15/38	18/38
40		3/10	15/40	18/40
42			15/42	18/42
44				18/44

It will be noted that 1/2-in. reed opening will give a 6-to-1 terry with 36 picks per inch, but only a 5-to-1 terry with 30 picks per inch, because the reed was opened 12 times in 36 picks and only 10 times in 30 picks. Reed openings given are the minimum. In practice it will be found necessary to add about 1/8 in. to overcome slippage.

Fig. 9. Ratchets for Terry-Beam Let-Off
(In fractions of an inch)

Pick Gear	Proportion of terry to 1 in. of cloth			
	3	4	5	6
30	58/2	44/2	35/2	30/6
32	62/2	47/2	37/2	31/2
34	66/2	50/2	40/2	33/2
36	70/2	53/2	42/2	35/2
38		56/2	45/2	37/2
40		59/2	47/2	39/2
42			49/2	41/2
44				42/2

The ratchets given are the nearest, omitting fractions. Results should be checked by measuring the terry in the cloth, and any necessary adjustment made. Another clunter-check should be made by weighing the cut of cloth and comparing it against standard weight. The loop may have to be lengthened or shortened, where weight is of supreme importance to counteract light or heavy yarns.

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Hundred Mills Specify MILDEWPROOFING Wants

HIGHLIGHTS: *Thread and fabric uses seen for wartime development—Definite properties needed in addition to resistance to fungi—Survey brings out special needs of particular mills.*

By R. E. HORSEY
Givaudan-Delawanna, Inc., New York, N. Y.

DEVELOPMENT during the war of a mildew-resistant compound that would protect textiles from mildew in the tropics led to the development of dihydroxy - dichloro - diphenylmethane (commonly called G-4). In order to ascertain the needs for peacetime mildew-resistant textiles, the desires of a hundred (99, to be exact) mills were found.

The question was asked, "If you feel the need for mildew-resistant finishes, on what specific types of merchandise would it offered?" The answers showed interest in materials ranging from book cloth to hat bands. A full list of the materials for which interest was expressed is given in Table I.

Some interesting comments regarding mildewproofing beyond those which would ordinarily be expected were received. For instance, a thread manufacturer stated:

"There is some doubt if mildew-resistant finishes are necessary for stitching thread. It is considered possible that mildew-resistant finishes on surrounding fabric will protect the thread. We do not know yet."

The survey brought out the fact that mills want specific properties in their mildew-resistant finishes as shown in Table II.

TABLE I—Potential Applications of Mildew-Resistant Finishes

Awnings	nesses for automotive vehicles	Hat felts	Suspenders
Backing yarns	Cotton fabrics	Interlinings	Tarpaulins
Back-sizing finishes for rugs and carpets	Cotton threads	Leathers	Tents
Bandages	Cotton webbing	Lighting cables	Tennis webs
Basket leather	Denims	Linen threads	Thread for awnings, tents, upholstery
Beachwear furniture	Draperies	Netting twines	Tire cords
Beachwear shoes	Dress goods	Outdoor furniture upholstery	Tropical clothing
Belts	Duck	Paper-machine felts	Tweeds
Bindings	Electrical appliances, braiding, and cables	Rayon	Twines
Blankets	Fire hose	Ropes	Venetian blind bindings
Bombsight covers	Fishing lines	Sheeting	Wadding
Book cloth	Flame-proofed cottons	Shoe laces and webs	Waterproofed clothing, footwear, seatcovers
Carton tapes	Footwear	Shower curtains	Wire cables
Coatings	Furniture upholstery and webs	Sized warps of cotton	Wool felts
Containers for surgical dressings	Garters	Slipper felts	Woven non-metallic tubing
Cordage	Hatbands	Socks	Yacht sails
Cotton covered wiring harnesses for automotive vehicles		Starch-filled fabrics	Yarns
		Suitings	

TABLE II—Properties Desired in Mildew-Resistant Finishes

1. Odorless
2. Non-toxic
3. Weather resistant
4. Durable
5. Permanent
6. Heat and light resistant
7. Non-corrosive
8. Water resistant
9. Flexible

Identical pieces of canvas duck, one mildewproofed with the compound G-4 and the other untreated, following standard soil-burial test.

COMMENTS. Individual comments made by mills, many undoubtedly with a particular application in mind that was not stated in the survey, included the following:

"Liquid powder mixed with H_2O would be ideal."

"Flexibility as to hydrogen-ion concentration desirable."

"Should be compatible with other emulsions."

"Volatility in steam is a must."

"There should be no dulling of light shades."

"Unit bath application desirable."

"Need low surface tension for complete penetration."

"Should be usable in combination with water repellent."

"Ideal mildew-resistant-treated thread should operate on power sewing machines without necessitating tension adjustments in comparison to untreated threads."

"Felts that run wet should be protected from fungus growth."

"Application procedure should be simple."

"Mildew-resistant finish should be applied in durable form to enable the merchandise to withstand washing."

"Development of protection to be used in finishing room is necessary so cloth can be left wet for longer periods with safety."

"Need mildewproofing in which yacht sails can be dipped in tub after completely finished without causing tendering of fiber."

"Should be reasonable in cost."

"Should be able to apply mildew resistance in the picking process when the raw stock is oiled."

"Should be comptaible with other finishing compounds."

The question was asked, "In the opinion of the technical and production departments of your organization, which type of mildew-resistant finish is to be preferred?" Sixty-three mills who answered this question showed the following preference: (1.) Chlorinated phenols, 36, or 57%; (2.) Mercurials, 15, or 24%; (3.) Metallic soaps, 12, or 19%.

What does it take to dress America?

IN MONEY . . . nearly three-billion dollars annually, figured at manufacturers' prices. The last U. S. Department of Commerce census, in 1939, placed the volume of the apparel industries—men's, women's, children's clothing and accessories—at more than $2,800,000,000. This exceeded by more than three-hundred-million dollars the volume of the petroleum industry, for example.

In textiles . . . it takes a multitude of different fabrics to serve many varied needs and uses. Fabrics for summer dresses that launder easily. Fabrics for business wear that resist wrinkling. Men's suitings that hold creases. Suitings that feel cool for hot weather. Fabrics with special weaves and textures. Certain fabrics for outerwear, others for underwear. Fabrics with beautiful colors and designs. Long-wearing fabrics for hard usage.

Celanese* synthetic yarns possess distinctive advantages and properties which meet the multiple needs of the apparel industry in many directions. And because they are man-made fibres, unaffected by the vagaries of Nature, quality can be accurately controlled.

Fabrics made of all-Celanese yarn possess a long list of desirable qualities which are inherent in the yarn, itself. Examples are ease of cleaning and quickness of drying because of the low moisture absorption of Celanese fibres; resistance to shrinking and stretching because of the dimensional stability of this man-made fibre; inherent insulating qualities against heat or cold; ability to hold pleats; resistance to mildew and moths . . .

Celanese yarns, in the form of filament or staple fibre, are also extensively combined with cotton, wool and viscose process rayon. The resulting combination fabrics likewise gain many advantages of utility, beauty and economy. Many of the most popular fabrics of today would not be possible without the use of the cellulose acetate synthetic fibre pioneered by Celanese.

Through continuous research in all three related fields —textiles, plastics and chemicals—Celanese Corporation is in the forefront of both the development and production of modern synthetics which serve so well the American economy. Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

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Flax System Gives Rayon LINEN-LIKE APPEARANCE

HIGHLIGHTS: *Four or five drawing processes should be used in preparing rayon roving on the flax system—Medium-weight fabrics require card sliver of 25 to 30 yd. per lb. and roving of 800 to 1,400 yd. per lb.*

By S. A. G. CALDWELL

THE CHARACTERISTIC APPEARANCE of linen-like rayons is mainly due to certain irregularities in yarn structure consequent to the method of fiber preparation and spinning. On drawing and roving machinery employed for processing linen and linen-like rayon yarns, fiber control is effected by drawing the material through the pins of vertical combs or gills carried on steel bars to which a forward motion is imparted in the reach at a speed slightly greater than that of the retaining rolls.

A graduated series of drawing frames —usually four or five in number—is employed for this purpose. On the last of these, the roving frame, the drafted sliver receives a small amount of twist to bind the ribbon of fibers together. At this stage, the stock is built on bobbins which constitute the form of supply to the spinning frames.

CONTROL OF FIBERS. Screw-gill or push-bar drawing frames are an essential feature of a preparatory system for processing rayon-staple card sliver which has not been previously combed. During drafting on these frames, the pins effect the necessary degree of fiber parallelization which is lacking in the carded sliver. The function of the gills is confined to straightening the fibers and controlling their movement during drafting in order to produce a sliver of uniform density and weight.

The pitch of pin does not need to be so fine as on frames for the preparation of flax material, in which process the pins must also aid in the reduction of the fiber-strand dimensions. On drawing frames used for rayon-staple preparation, the pin pitch is determined by the average denier and staple length of the material to be processed. Fine-denier fiber requires more control than coarse-denier fiber, and this control is obtained by a closer pin setting.

Drawing and roving operations are also concerned with reduction of the card sliver to a suitable weight and condition for spinning. A sliver weight of 25 to 30 yd. per lb. at the card drawing-head delivery and a roving weight of 800 to 1,400 yd. per lb. constitute a useful basis for the preparation of linen-type rayon yarns intended for medium-weight fabrics.

Variations in weight of card sliver due to irregularities at feed and delivery necessitate a preliminary drafting and doubling operation to ensure the required degree of uniformity for making up the set on which, in conjunction with drafts and doublings on the intermediate frames, the weight of roving is based. When uniformity of weight has been attained in the preliminary stage, the balancing of drafts and doublings on the intermediate frames will maintain the uniformity as the sliver weight becomes finer.

UNIT WEIGHT. The weight per unit length is regulated on the first drawing frame of the system, from which a measured length (bell, or set) is delivered into the can in front. Each can is weighed, and the required number of cans is made up into a set which represents the number of ends to be doubled into one on the second drawing frame. Owing to the bulky nature of the sliver, only single ends should be passed over each set of gills; otherwise, some of the fiber will tend to ride on the pins and be gulped through by the drawing rolls, resulting in uneven drafting and producing a weak sliver and yarn.

The weight of set must be altered for roving weights exceeding the limits obtainable by minor draft changes on the frames in the system. The yards per ounce of roving is based on the yarn

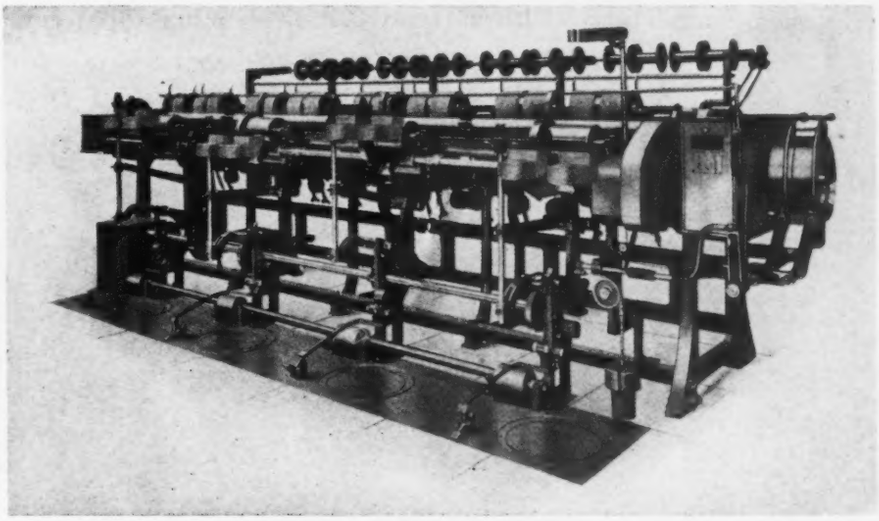

Fig. 1. This British automatic can-packing device on the drawing frame makes it possible to put considerably more drawing in a can.

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More than half a century ago, Hyatt created the first anti-friction bearing designed to carry the load the full length of a roller.
So revolutionary and successful was this principle in performance that, over the years, many additional types of Hyatt Roller Bearings have been built to meet the progressive requirements of speed, load carrying capacity and ease of assembly.
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count and spinning draft. When this factor has been determined and the length of bell, drafts, and doublings over the system are known, the weight of set can be calculated from the following formula: (Length of bell × drafts of 2nd and subsequent drawing and roving frames) ÷ (Yd. per oz. roving × 16 × doublings of 3rd and subsequent frames) = weight of set.

The amount of roving twist required varies to some extent with the weight, staple, and denier of the fiber. Four- to six-inch staple bright material will require 0.8 to 1.0 turns per inch. This amount of twist can be reduced on roving made from longer staple or matt fiber.

The use of large cans in conjunction with sliver-packing and can-turning mechanisms is essential to the successful and economic processing of rayon staple to ensure long runnage, so that piecing up is reduced to a minimum. With these devices, the sliver is packed evenly in the can and can be withdrawn with little risk of breakage—an important factor when processing short-staple fiber, particularly bright types.

CAN PACKING. On the four-head, spiral-screw drawing frame fitted with a combined can-packing and turning mechanism, Fig. 1, the packers are arranged to balance each other so that power consumption is reduced to a minimum. Any one of the heads can be stopped independently of the others for the removal of a can or for other purposes. The can platform is set at floor level, and the turning mechanism is concealed below. The mechanism is operated by a mangle wheel which causes the platform to rotate alternately in a clockwise and counter-clockwise direction, distributing the sliver evenly over the whole area of the can.

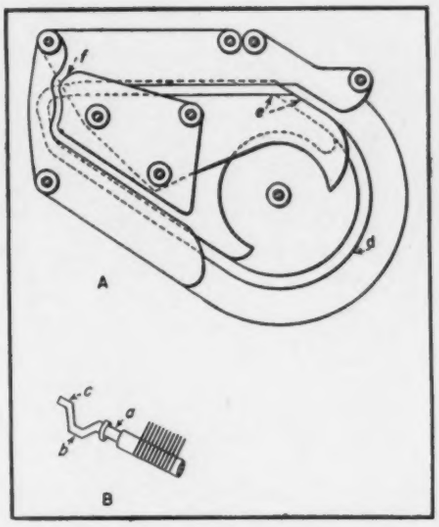


Fig. 2. As a bar of pins on the high-speed push-bar drawing frame rises to engage the fibers, end piece a enters track d and crank arm b enters track e. As the stroke is completed and b is about to leave e, c enters track f. By this system of arms and fixed tracks, the angles of the drafting pins are controlled during the complete stroke of the pin bar.

The main drawback to screw-gill-operated drawing frames, compared with those in which fiber control during drafting is effected by rolls, has been the speed limit imposed by the principle of faller driving. On single-thread screw frames, the drafts have to be kept fairly long in the interest of production; and the faller drops should not be allowed to exceed 200 per min. Long drafts have a tendency to break up the fiber, particularly when working fine-denier material.

With double-thread screws, two fallers instead of one are dropped for each revolution of the screw, so that in similar conditions the faller speed in the top screw and the number of drops per minute may be doubled. Double-thread screw-gill drawing frames, therefore, offer the advantage of increased production with shorter drafts.

HIGH-SPEED FRAME. The development of the Eves high-speed push-bar drawing frame, which combines the advantages of the screw-gill unit with a range of speeds still greater than that of the standard push-bar machine, provides a solution to the problem of output. The special arrangement for controlling the movement of the bars as the pins enter and are withdrawn from the fiber in the reach allows efficient penetration of the sliver with the shortest possible distance between the roll nips and the pin track, thus ensuring maximum control during drafting.

The bars are double cranked at one end, as indicated at *B* in Fig. 2. The cranks engage sectional fixed control tracks, shown at A, which compel the pins of the bars to assume certain definite angles in relation to the fiber path. End piece a engages the enclosed path *d*. The first crank arm *b* enters the sectional path e to control the angle of the pins as they rise to penetrate the material in front of the retaining roll. Arm *b* continues in path e until the pins are about to be withdrawn at the back of the drawing roll.

(Continued on page 186)

SCREW-GILL PREPARATION SYSTEM

	Four-Frame System				Five-Frame System				
	1st drawing	2nd drawing	3rd drawing	Roving	1st drawing	2nd drawing	3rd drawing	4th drawing	Roving
Number of heads	3	3	4	13	3	3	3	4	13
Slivers per head	6	8	8	8	6	8	8	8	8
Deliveries per head	1	2	4	8	2	2	2	4	8
Doublings on frame	6	4	2	1	3	4	4	2	1
Length of reach	12	11	11	10	12	12	11	11	10
Pitch of screw (in.)	7/16	3/8	3/8	5/16	1/2	7/16	7/16	3/8	5/16
Pins per in.	16	18	21	24	14	16	18	21	24
Wire gauge	20	21	23	24	18	20	21	23	24
Length of pin (in.)	1 1/8	1	7/8	3/4	1 1/4	1 1/8	1	7/8	3/4
Conductor width (in.)	2 1/4	1 5/8	1	5/16	2 1/4	1 3/4	1 3/8	1	5/16
Bobbin dia. (in.)	.....	.....	.....	4 1/2	.....	.....	.....	.....	4 1/2
Bobbin traverse (in.)	.....	.....	.....	9	.....	.....	.....	.....	9
Roving spindles	.....	.....	.....	104	.....	.....	.....	.....	104
	Approximate output 75 lb. per hr. at 85% efficiency.				Approximate output 75 lb. per hr. at 85% efficiency.				

Fig. 3. Whether to use four or five drafting frames depends upon the amount of doubling and drafting necessary to attain the fineness of roving needed.

HIGH-SPEED PUSH-BAR AND SCREW-GILL SYSTEM

	1st drawing (push bar)	2nd drawing (push bar)	3rd drawing (push bar)	4th drawing (screw gill)	Roving (screw gill)
Number of heads	1	1	1	5	15
Slivers per head	4	6	6	8	8
Deliveries per head	1	2	2	4	8
Doublings on frame	4	3	3	2	1
Length of reach (in.)	11	11	11	11	10
Pitch of screw (in.)	3/8	1/4	1/4	3/8	5/16
Pins per in.	14	16	18	21	24
Wire gage	18	20	21	23	24
Length of pin (in.)	1 1/8	1	1	7/8	3/4
Conductor width (in.)	2 1/4	1 3/4	1 3/8	1	5/16
Bobbin dia. (in.)	....	....	....	....	4 1/2
Bobbin traverse (in.)	....	....	....	....	9
Roving spindles	....	....	....	....	120
	Approximate output 90 lb. per hr. at 85% efficiency.				

Fig. 4. A screw-gill finisher drawing frame and roving frame are included in this layout for a high-speed push-bar system because of their efficiency in processing silver of light weight.

These "Pennies" are Really Big Money

From one to several feet in length, these twisted metal strips are called "pennies" by the natives of Liberia and French Guinea. Worth about 2¢ by our standards—in Africa one such "penny" buys enough rice to feed a man for two days!

Under primitive conditions, this medium of exchange serves its purpose. But in civilized countries there are easier, more streamlined ways to do business.

Notable among modern financial practices is that of factoring. Through your factor, you may be able to reduce overhead expense—build up working capital—turn accounts receivable into ready cash. In short, a factor's services may so greatly ease your financial burden that you will find it well worth-while to consult us.

Our latch string is always out; we will be glad to discuss your problems with you at any time.

MILL FACTORS
CORPORATION

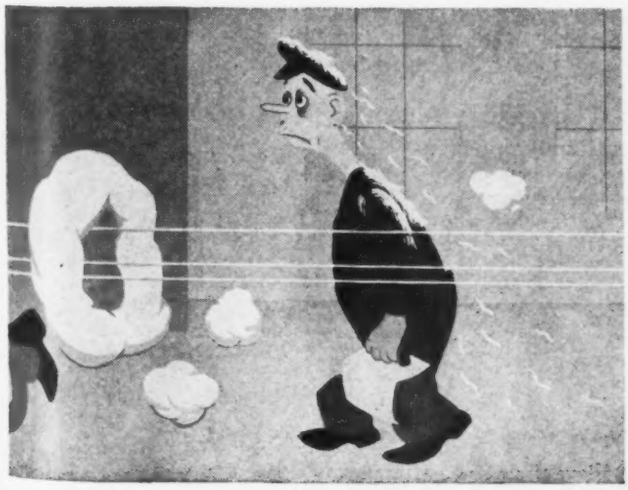
380 4th Ave., New York 10, N.Y.

TRAINING FILM Dramatizes Reasons for Card Room Waste

HIGHLIGHTS: *Slide cartoon film with synchronized sound marks progressive step in improved methods for training operatives—Other departments in mill may be covered—Instruction brought home by experiences of imaginary character, Morty McMote.*

IN THIS INSTRUCTION FILM, Morty McMote is at first an inept, dissatisfied worker. As his overseer and one of the old hands lead him into improved practices, he brightens up and the picture ends with Morty happy, satisfied, and efficient. The accompanying picture shows several steps in Morty's progress. The film is typical of what may be done for all mill departments on an increasingly detailed and effective scale. The film is entitled "Waste Ain't Waste", and has been produced by Vit Films, of New York with technical supervision by Warner Textile Consultants, Inc., New York.

Overseer: *"When ends are pieced up right after stripping, some of the new fibers stay in the clothing, which is clean, instead of going into the sliver. That's what makes the sliver, and consequently the yarn and finished cloth, thin and weak." Morty had been told to let the sliver run on the floor until it shows the usual thickness.*



Morty McMote went home every night thinking that no one cared whether or not he worked himself into an early grave. The well-trained workers have dashed off, leaving only a ring of smoke. Thus begins the instructive story of the education of a card-room hand.

Overseer: *"Let me know, when you take out motes and fly, which card is producing too rich a waste." Overseer is pointing at proper waste, scant and dirty, while poor Morty is taking a lot of good cotton out of the waste box of another card.*

WE make these surveys right along, and they result in a common-sense plan to assure correct application of the right lubricants. Briefly, this is what the Shell Lubrication Engineer will provide:

1. Survey and analysis of the lubrication requirements of your plant engines and machines.

2. Recommendations of proper lubricants, together with specific instructions as to when and how they should be used.

3. Scheduled check-ups for all critical or unusual machinery.

4. Reports (if you want reports) about the performance and economies of recommended lubricants in use in your machines. To the Shell Lubrication Engineer, though, the best report is short and sweet: "All machines continuously in service, well lubricated."

* * *

Right here we ought to warn you that the Shell Lubrication Engineer isn't going to tell you everything you're doing is wrong—he may, in fact, find very little fault with the lubricants and procedure you are now using.

Then, too, he will come to you without a rigid set of rules. Your lubricating procedures are probably based on pretty sound experiences that your own folks have had. Your problem is really one of picking out the weak spots before they become trouble spots . . .

So call the Shell Lubrication Engineer for that survey. If your property is so large that he needs help, he will have it. You are bound to gain, if it is only peace of mind!

There is no obligation on your part.

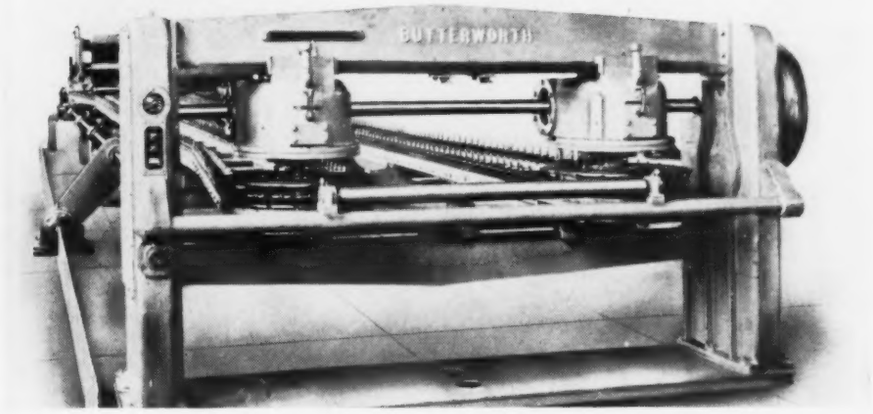
Call your local Shell Representative, or write Shell Oil Company, Incorporated, 50 W. 50th Street, New York 20, N. Y., or 100 Bush Street, San Francisco 6, California.

SHELL INDUSTRIAL LUBRICANTS

SHELL

TEXTILE Equipment NEWS

High-Speed Tenters Feature Over-Head Drive



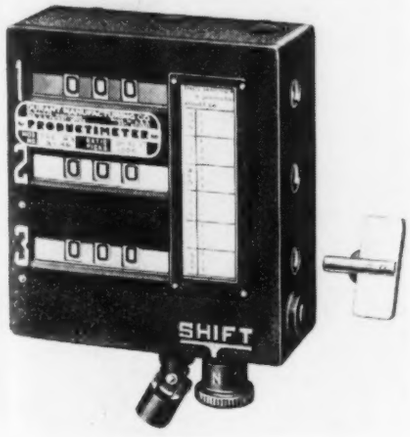
Automatic tenter features overhead drive. (Butterworth)

A mercerizing tenter designed to operate at speeds up to 100 yd. per min., and a straight automatic tenter for operation at speeds up to 250 yd. per min. have been announced by H. W. Butterworth & Sons Co., 2417 East York St., Philadelphia 25. The high speeds are said to be the result of a new heavy-duty overhead drive which is reported to be semi-silent and to operate at a high degree of efficiency due to close control exercised by width and speed indicators.

The drive heads are constructed of hardened steel-alloy worms with magnesium-aluminum-bronze worm wheels mounted on Timken bearings in an air-cooled casing. The construction is said to prevent oil leakage and to eliminate the oil circulation system.

Extra large sprockets and chain openers as standard equipment for chain guides are designed to reduce wear on chains and nippers.

Improved lubrication system and lowered horsepower requirements are other advantages claimed.



New pick counter, resettable from either side. (Durant)

Pick Counters For 2- or 3-shift Operation

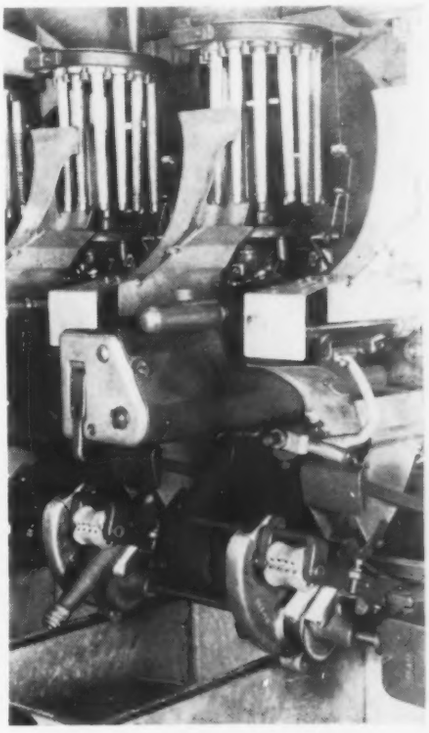
New designs of 2- and 3-shift pick counters have been announced by Durant Mfg. Co., 1931 N. Buffum St., Milwaukee 1, Wis.

Designed to meet the varied requirements of mills, the pick counters are engineered and built for long, hard usage. A special feature is the shutter mechanism which is said to prevent any falsification of production figures. Any attempt to change the count, other than by actual operation of the loom, results in the shutter closing and concealing the figures, and remaining closed until the counter is properly reset with the key.

Other reported features are: resettable from either side; center drive to fit any loom without special attachments; interchangeable for right- or left-hand looms; shift knob positioned for easy adjustment to any shift, or neutral; made resettable or non-reset in three and four figures capacity; complete with mounting brackets and drive; rustproof and dustproof.

Bobbin-Chalking Device Fits Automatic Winder

An automatic bobbin-chalking device for attachment to the Whitin-Schweiter winder has been announced by Whitin Machine Works, Whitinsville, Mass. The unit is so placed on the winder as to catch and mark fully wound bobbins as they emerge from the bottom bobbin



Automatic chalking device holds two pieces of chalk or one piece and dummy. (Whitin)

chute. The low location is said to prevent chalk dust from getting into bearings or causing any interference with the operation of the winder.

The unit consists of a main support bracket, a rubber-covered roll, an idler roll, and a spring-tensioned chalk tray. Two oblong pieces of chalk are held in the tray; one side of the holder may be loaded with a dummy when only one mark is desired.

The chalk tray is held against the bobbin by a spring and is depressed as the bobbin starts through, so that the pressure of the bobbin is exerted against the idler roll located between the pieces of chalk. The chalk tray is designed to require no adjustment between the time fresh pieces of chalk are installed and the time they are exhausted. A V-shaped notch cut in the circumference of the rubber-covered roll is designed to grasp the rings of the bobbin and start it through. The rubber roll is driven by means of a covered roller chain.

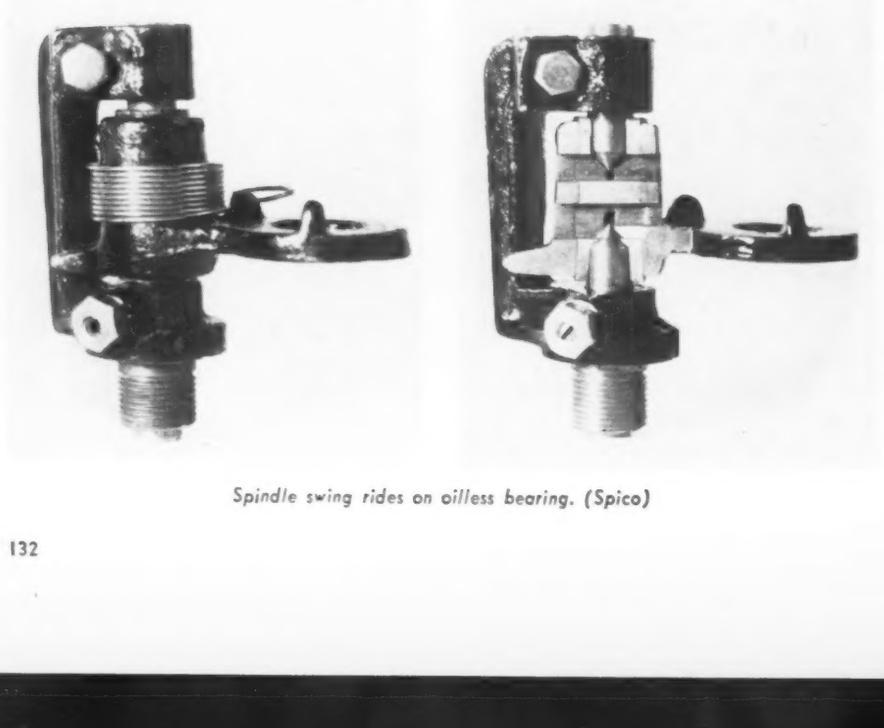
Power to run the chalker is transmitted by a worm-gear drive from the regular transmission belts, thereby eliminating a separate motor.

Idler, Spindle Swing Require No Oiling

A new spindle swing which rides on an oilless bearing and a new sealed-bearing idler have been announced by Spico Sales Co., Carlisle, Pa. Southern sales representative is R.E.L. Holt, Jr., of Greensboro, N. C. The bearings are reported to reduce maintenance costs and to insure cleaner yarn.

Designed on the two-point suspension principle to distribute weight and reduce wear and sag to a minimum, the swing is reported to give more even twist, and to be adjustable in that the top pin can be tapped in when wear occurs.

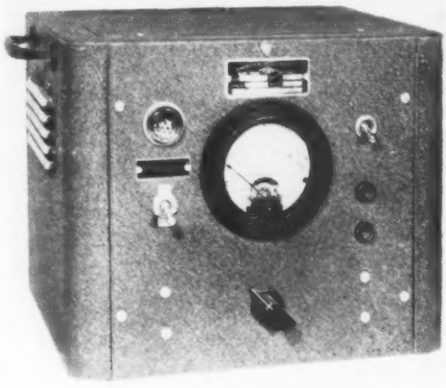
The idler operates by means of a sealed cartridge containing oil, a ball bearing, and an Oilite steadying bearing. The cartridge revolves around a stationary pin fixed in the bolster and the idler is pressed onto the cartridge and revolves with it. The oil is soaked into a stationary felt pad in the cartridge and is drawn from it by capillary action when the idler is in motion. Excess oil, drawn to the top of the cartridge by centrifugal force, remains away from the ball bearing, thereby insuring cool running and long life, it is said.



Spindle swing rides on oilless bearing. (Spico)

Hygrometer To Control Humidity Within 0.5%

An electric hygrometer for high-precision measurement and control of relative humidity has been announced by American Instrument Co., Silver Spring, Md. The instrument, employing a sensing element said to be the speediest device known for measuring humidity changes, is designed instantly to sense and indicate changes of plus or minus 0.5% relative humidity within the working ranges of 40° to 120° F., and 7% to 100% r.h.



Electric hygrometer employs sensing element said to be speediest known. (American Instrument)

Blower Delivers Hot or Cold Air

New portable dryer announced by Burrell Technical Supply Co., 1936-38 Fifth Ave., Pittsburgh 19, feaures light-weight, non-pulsating hot or cool blast, adjustable base, a-c. or d-c. operation on 115v., and fully insulated construction.

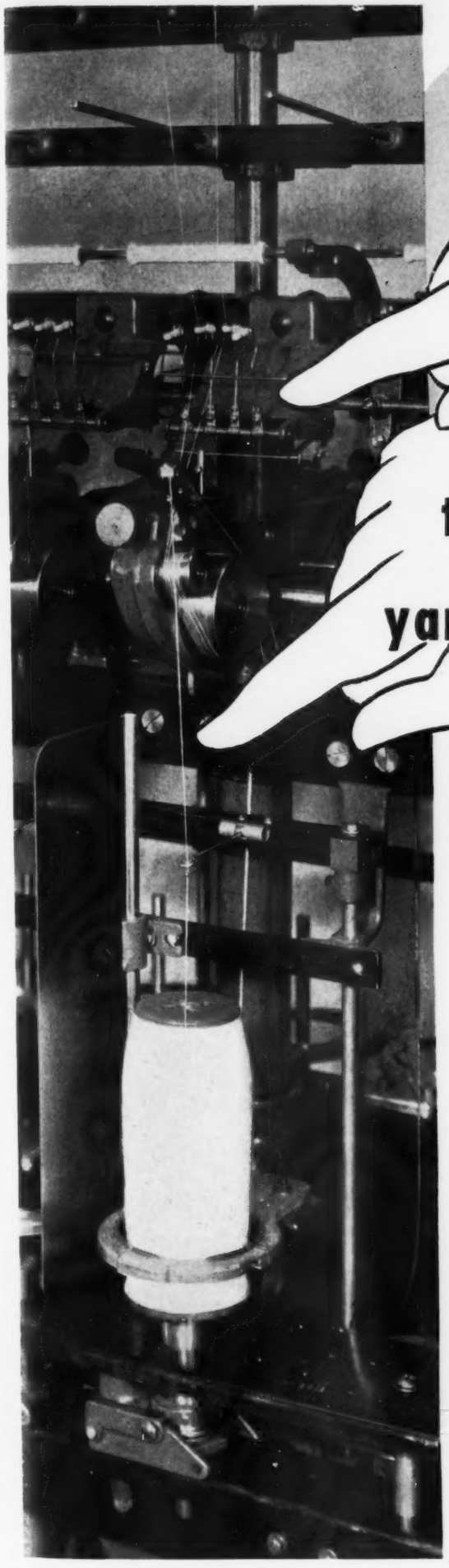
"Raincoats" for Fluorescent Lamps

Faster starting of fluorescent lamps by the application of a new water-repellent material is being accomplished on a certain type of fluorescent lamp, it has been announced by General Electric Co., Pittsfield, Mass. The new material is said to form an invisible and permanent "raincoat" over the lamp and, when used with metal adjacent to the lamp, such as a reflector, to make it practically insensitive to high humidity.

The new material, known as Dri-Film, is the best material yet found to form a continuous insulating film over glass, it is reported. It is applied easily, it is said, and lamps can be maintained with only customary cleaning. Tests reportedly have shown that the lamps, when coated with Dri-Film, operate satisfactorily even under 100% r.h.

Ball-Bearing Tape Tension Pulley to Fit Any Frame

A new anti-friction bearing tape-tension pulley designed to be mounted directly on any cotton spinning frame has been announced by SKF Industries, Inc., Front St. and Erie Ave., Philadelphia. The new pulley eliminates installation of special supporting brackets,



THE NEW ATWOOD RING TWISTER FOR SPUNS, FINE COTTONS, WORSTEDS AND SYNTHETICS

Has a Stop Motion...

that automatically prevents yarn with a ply missing

When you are doing ply work with the *New* Atwood Model 10 Ring Twister, and one end breaks, the spindle is stopped *automatically*. This stop motion also operates when a break occurs in the plied yarn between the feed roll and the spindle. But only that one spindle is affected; the others go on as though nothing had happened. This stop motion design—

1. Permits tying of knots in single ends of yarn.
2. Eliminates yarn with a ply missing.
3. Eliminates roller laps.
4. Reduces dirty yarn and waste to a minimum.
5. Increases production.

All spindles of the *New* Atwood Model 10 Ring Twister are driven by a single, endless belt which provides constant, smooth spindle speed over the entire length of the machine. Other outstanding features include new, larger diameter feed rolls that are a big help in producing low-twist yarns; full-length spindle separators; spindles designed for high speeds; compact design and minimum power requirements.

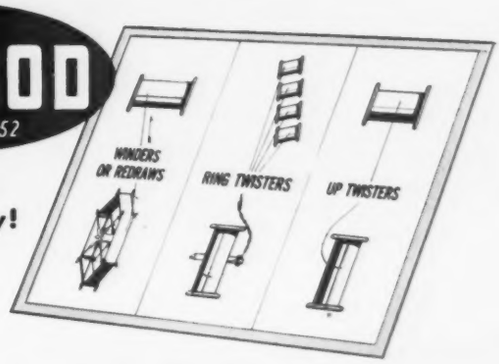
For details of the latest developments in ring twisting, write for bulletins describing the *New* Atwood Model 10 Ring Twister. No obligation, of course.

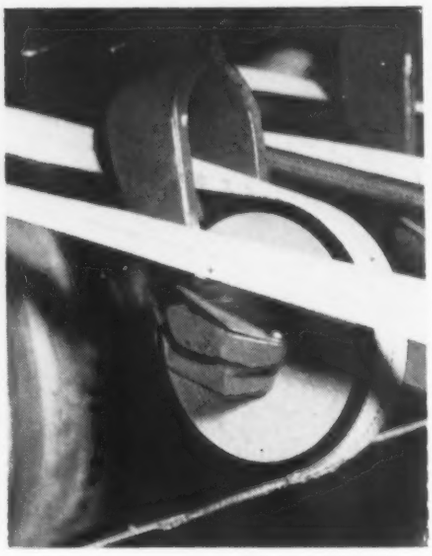
AD-7

ATWOOD DIVISION
FARREL-BIRMINGHAM COMPANY, INC.
STONINGTON, CONNECTICUT, U.S.A.

ATWOOD
SINCE 1852

What's new in yarn machinery!





Anti-friction bearing tape-tension pulley requires lubrication every three years. (SKF)

and the anti-friction bearings aid in keeping spindle speeds constant, it is said. Substantial power savings resulting from elimination of wood-bearing frictional drag and fewer spindle shutdowns due to tapes slipping from dragging pulleys are also reported.

The pulley, four inches in diameter, consists of a plastic shell with aluminum shields mounted on a deep-groove ball-bearing having a stationary shaft. Plastic blocks support the pulley shaft and fit present spinning-frame brackets. Aluminum shields protect the ball bearing from lint and fly, and the only maintenance required is lubrication every three years, it is stated.

Electric Bonding Machine Seams Thermoplastics

An electric machine for bonding thermoplastic materials has been announced by Singer Sewing Machine Co., 149 Broadway, New York, and designated as Bonding Machine No. 248-2. Closely resembling a modern sewing machine in appearance and method of operation, the new machine employs no needle, but uses two electrodes, one above and one below the material to be bonded. Between the electrodes passes a high-frequency electrical current. The heating of the materials, as they pass through the machine, fuses the layers together with a neat, almost invisible seam said to be as strong as the material itself.

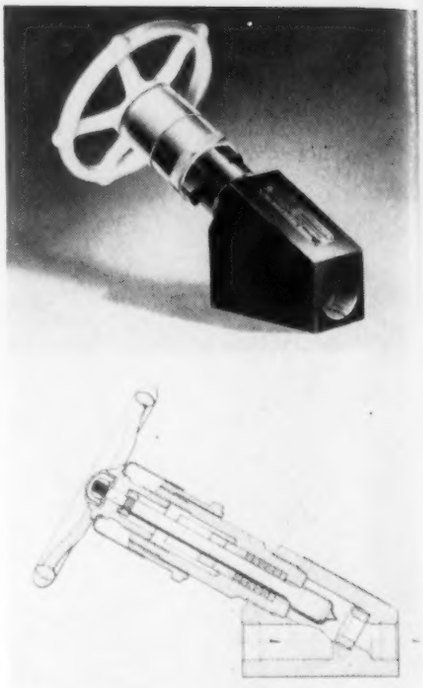
Practically any thermoplastic sheet material, whether calendered or cast, can be successfully bonded by this method, it is stated. Seams may be straight or curved, and sharp corners can be made. Attachments for special operations such as binding, hemming, and half-lap seam felling are available.

The high-frequency oscillator which provides the heating current, may be supplied from any normal 110-120 volt, single phase, 50 to 60 cycle outlet.

The machine is driven by a Singer electric transmitter mounted under the table. Instant starting and stopping is accomplished by foot pressure on a treadle, which also turns on and off simultaneously the high-frequency bonding current.

For tacking operations, a switch is provided for furnishing high-frequency current to the electrodes without running the machine. Tacking is then done by raising and lowering the upper electrode by the treadle.

The entire machine is grounded, and the operator is amply protected from any contact with the high-frequency current, it is stated. Also, it is reported that bringing the electrodes together with no plastic between them, and thus short-circuiting the system, does no damage.



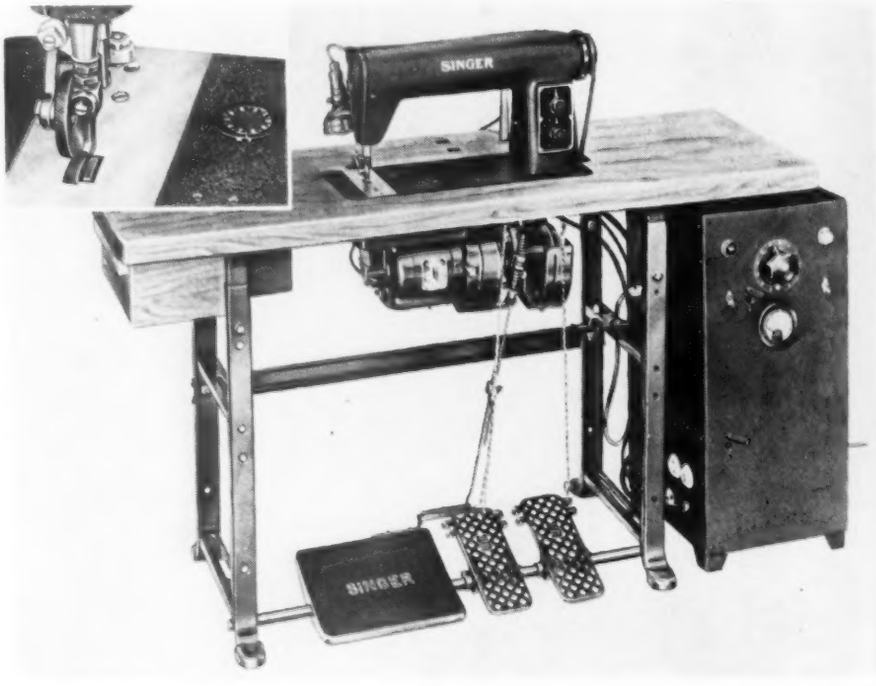
30° body design in the globe pattern effects a minimum change in direction of flow. (Grove.)

Valve Employs 30° Body to Reduce Turbulence

A new series of valves featuring 30° valve-body design in the globe pattern, announced by Grove Regulator Co., 65th & Hollis Sts., Oakland, Calif., is said to effect a minimum change in the direction of flow through the valve. Turbulence is almost entirely eliminated, as the flow stream is carried through the valve in the direction of closing, it is stated, thus almost entirely eliminating wire drawing and cutting action.

A one-piece stem and plug is employed to effect tight shut-off when closed. The valve stem is not directly carried by the handwheel, which re-

(Continued on page 202)



Bonding of thermoplastic materials by use of high-frequency electrical current is principle of new machine. (Singer.)

YESTERDAY — TODAY and TOMORROW

DEPENDABLE SOURCE OF SUPPLY

How we did it during the war—the maintaining of an adequate service of supply to our customers—will always be to us at least one of those miracles that even now we can't believe is true.

And yet, many of our customers continue to tell us our record stands at the top of their suppliers.

Perhaps we came through as we did because, when the heat was on, SONOCO put service-to-customers at the top of their policy program and our efforts were stimulated by the wholehearted cooperation of our customers and our employees.

Conditions are happily different today and yet they are not a whole lot different as regards supply and demand. However, we are guarding our enviable war record very carefully, and we are steadily increasing our production to give a greater margin of safety between your needs and our capacity, both for today and for tomorrow.

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. | HARTSVILLE S. C. | MYSTIC CONN.

sonoco
SERVES THE WORLD
PAPER CARRIERS

DYES & CHEMICALS — PRODUCTS & PROCESSES

Flameproof Finish Is Permanent

PERMAPROOF; B. F. Goodrich Co., Akron, Ohio.

Permaproof compounds for flameproofing and mildew-proofing fabrics, as well as making them waterproof, have been announced by B. F. Goodrich Co. Available in two types, "100" series for outdoor fabrics and "200" series for indoor fabrics, the compounds are reported to flameproof and mildew-proof any fabric and to be unaffected by normal laundering, dry cleaning, or outdoor weathering.

When applied on padders or similar machines, or by brushing on, the compounds reportedly add at least 10% to strength, with little effect on the hand of the fabric.

Flameproof Finish Applied In One Coat

A new clear, vinyl-plastic film for flameproofing fabrics has been announced by Roxalin Flexible Finishes, Inc., 800 Magnolia Ave., Elizabeth, N. J.

Said to obviate the necessity for employing separate base and top coats in order to achieve pliability along with a hard, block-resistant surface, the coating comes in liquid form and is applied by conventional spreading or knife-coating machines. It is said to yield good hand, high block resistance, absolute flameproofness, and to be highly resistant to moisture, alkali, and alcohol.

Gas-Fading Inhibitor For Acetate Rayon

ANTI-FUME DE PASTE; E. I. du Pont de Nemours & Co., Inc., Wilmington 98, Del.

Anti-Fume DE Paste, a new atmospheric gas-fading inhibitor for acetate rayon fabrics has been announced by Du Pont. Certain dyes which previously faded due to atmospheric gas fumes are said to have better fastness by use of small quantities of the chemical.

Applied during dyeing and requiring no additional equipment, the paste is said to be substantively absorbed by the fabric and to persist after repeated washings and dry cleanings.

Mill Maintenance

Check Sealed Bearings At the End of Five Years

A spot check of sealed motor bearings should be made at the end of five years of operation, according to Westinghouse Electric Corp. If the lubricant is discolored and has an offensive odor, it should be replaced.

The amount of lubricant to use is as follows:

Shaft diameter (in.)	Volume of Grease (cu. in.)
3/4 to 1 1/4	1
1 1/4 to 1 7/8	1 1/4
1 7/8 to 2 3/8	2 1/2
2 3/8 to 3	4
3 to 4	7
4 to 5	10

Note: 1¼ cu. in. of grease = 1 oz.

For properly lubricating a sealed motor bearing, the steps illustrated here should be followed.

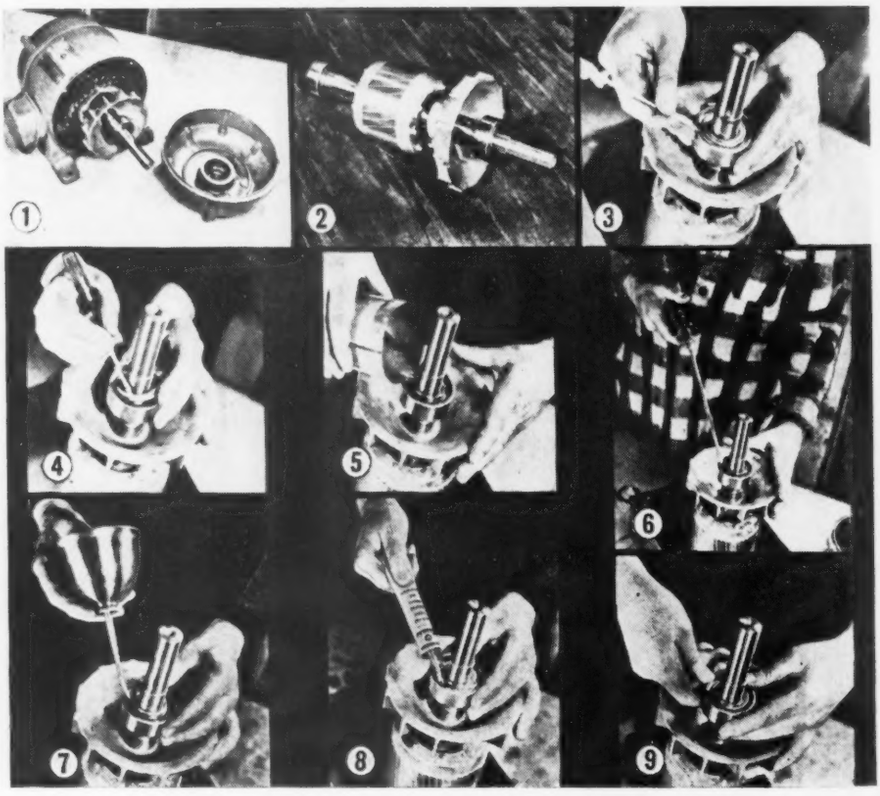


Fig. 1. *Remove the bracket from the end of the motor frame.* ***Fig. 2.*** *Withdraw the rotor from the stator.* ***Fig. 3.*** *Place the rotor on end, insert the point of a screwdriver under the tapered end of the split spring ring, and snap the ring out of the slot.* ***Fig. 4.*** *Insert the point of the screwdriver under the projection on the bearing seal and raise the projection so that it can be removed with the fingers.* ***Fig. 5.*** *Pour a suitable solvent, such as carbon tetrachloride, into the bearing and allow it to remain in the bearing a few minutes to dissolve the grease.* ***Fig. 6.*** *Blow all grease and solvent out of the bearing.* ***Fig. 7.*** *Put in a few drops of a good grade of engine oil and spin the bearing. The film of oil thus deposited will prevent corrosion inside the bearing.* ***Fig. 8.*** *Add ball-bearing grease to the amount specified in the accompanying table.* ***Fig. 9.*** *Replace the bearing seal, snap the retainer ring in place, and reassemble the motor.*

"5% MORE PRODUCTION in Carding"

"50% FEWER ENDS DOWN in Spinning"

"50% LESS RESIDUAL OIL after Scouring"

Fybrol 1115

"The finest wool and worsted fibre lubricant"

FYBROL 1115—introduced only a year ago—is now standard in mill after mill. Such a lubricant was needed—self-scouring, water-soluble, non-gumming, uniformly penetrating—Fybrol 1115 meets all requirements. All along the line, FYBROL 1115's better coverage improves mill efficiency. For example: At least 50% less residual oil after scouring—in most cases soap is entirely eliminated. Increased card production—at least 5%. Improved spinning—50% fewer ends down. Results: Better fabric . . . better handle . . . better dyeing and finishing.

FYBROL 1115 is easier to use and more economical than conventional wool and worsted oils . . . practically foolproof . . . proved by experience in mill after mill, on all types of blends.

Try, then standardize on FYBROL 1115 . . . unexcelled for its wetting and detergent properties. Send for latest performance data and trial order.

NOTE—FYBROL 1115 performance results quoted above are from actual mill experience and in individual cases may vary to a greater or lesser degree depending on conditions.

Textile Chemicals Division,
L. SONNEBORN SONS, INC.,
Dept. W8, 88 Lexington Ave., New York 16, N. Y.

We are interested in FYBROL 1115 for processing Wool . . . Worsted . . . Please send us latest mill performance data on FYBROL 1115 . . . Ship us . . . 54-gal. drum(s) of FYBROL 1115 at current price.

Name..... Title.....

Company..... .....

Address..... .....

City..... .....P.O. Zone ...State.....

TEXTILE CHEMICALS DIVISION

L. SONNEBORN SONS, INC.

88 LEXINGTON AVENUE · NEW YORK 16, N. Y.

PLANT AND LABORATORIES: NUTLEY, N. J. REFINERIES: PETROLIA AND FRANKLIN, PA.

Wool and Worsted Oils · Petroleum Sulfonate Bases · Detergents and Dyeing Oils · Penetrants · Delustering Specialties
Warp Dressings · Finishing Sizes and Softeners · Water Repellents · Sulfonated Oils · Wetting and Rewetting Agents

Kinks AND SHORT-CUTS

A $25 SAVINGS BOND FOR YOUR IDEA

A $25 Savings Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production, in brief any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operation. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submited. Items which are accepted will be paid for at our regular rate for this type of matter with one extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ **SAVINGS BOND PRIZE FOR AUGUST**

(June Contest)

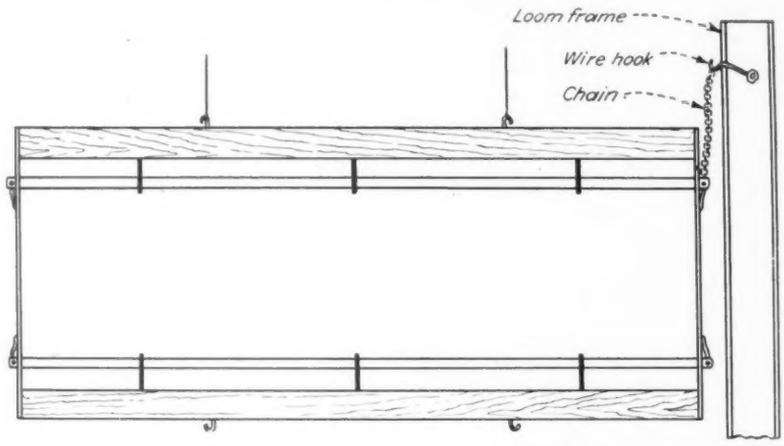
Static Electricity Grounded to Loom Frame

Before grounding our loom harnesses to the frames of our looms, we had a considerable amount of trouble with static electricity building up in the harnesses. By the time a warp was woven out, there would be an accumulation of lint on the harness shafts, heddles, etc. which not only gave the loom a bad appearance but also caused lint bunches in the cloth. Frequently, a weaver would get a mild electrical shock when he touched the harness.

Since installing harness grounds similar to the one shown in the sketch, we are no longer bothered with harness static.

To make the ground, we use a piece of wire and a piece of chain. One end of the wire is fastened to a bolt in the loom frame, and the wire is bent so that the other end extends inward to a point above the first harness. A hook is fashioned in the free end of the wire.

One end of the piece of chain is placed over the hook in the wire, and the other end is fastened to the heddle-bar support on the harness. The chain should be long enough to permit the harness to work up and down freely. *(K-525) Robert Lynch, Andover, Mass.*



Static electricity passes from the harness through the chain and wire and is grounded to the loom frame.

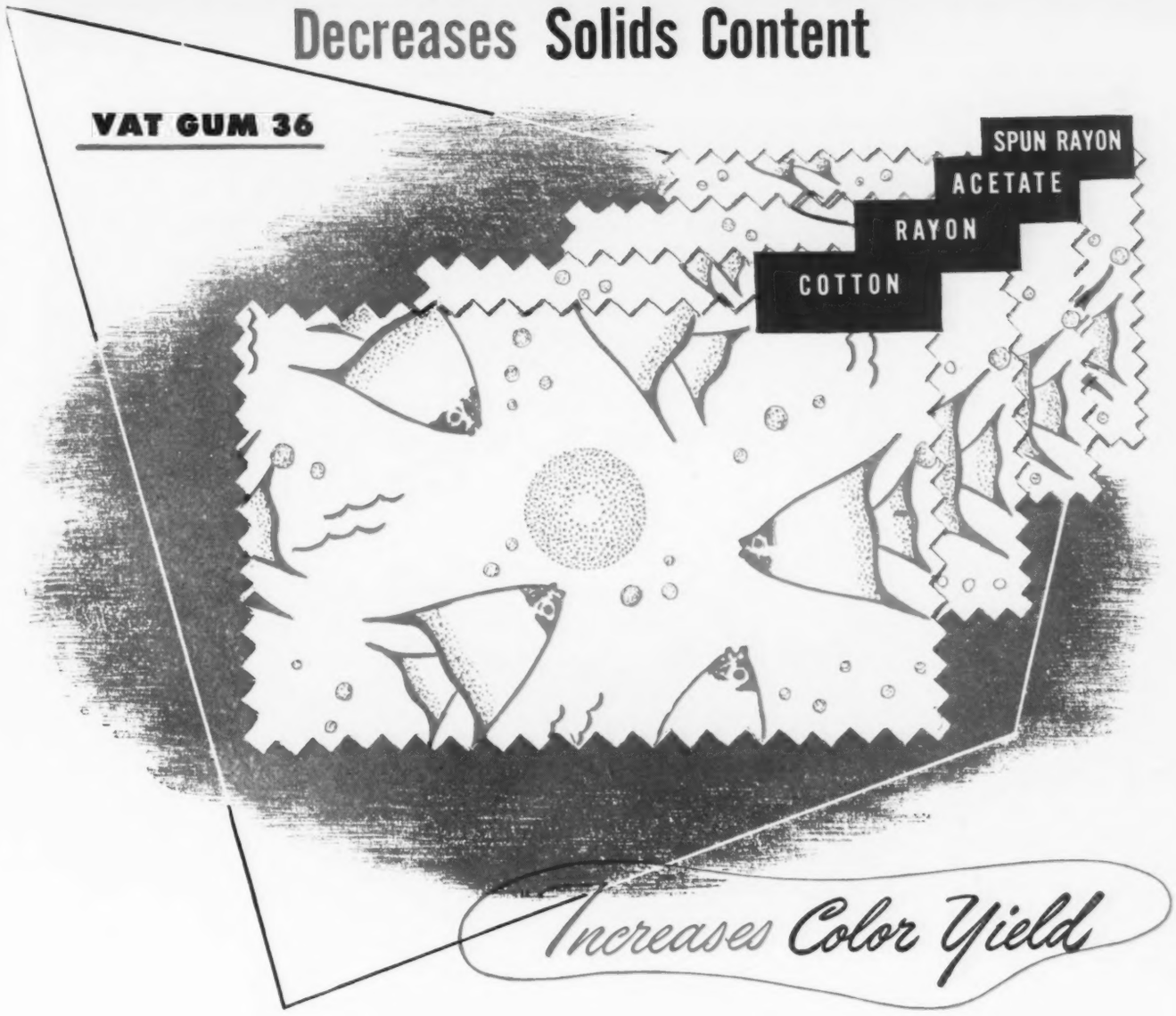
Tinted Yarn Cakes Reshaped With Wooden Cone

During the process of tinting cakes of yarn, the cakes frequently lose their shape; and when the yarn is unwound, excessive breakage may occur. We have made a device for reshaping distorted cakes after the tinting operation.

A solid cone of wood is turned out of a piece of timber to such a size that its base is approximately of the same diameter as the hole in a cake of yarn. Fasten the base of the cone with hinges to a worktable. Bore a $\frac{3}{4}$-in. hole through the center of the cone from the top to the base and through the table, and saw the cone in two, splitting the hole lengthwise. The halves of the cone should now be able to swing away from each other on the hinges fastened to the table.

Now place a $\frac{5}{8}$-in. rod through the $\frac{3}{4}$-in. hole in the cone, and let the rod

Decreases Solids Content



VAT GUM 36 is a smooth-textured, free flowing vat printing thickener. It reduces solids content requirements by as much as 40% over ordinary cook-up types. It offers excellent rinsibility. It produces prints with sharp detail, unbroken lines and superior color yield.

VAT GUM 36 is highly recommended for printing cotton, rayon, spun rayon, or acetate fabrics. Its cohesive, long-flowing characteristics provide better working properties in the machine and increased printing speeds. Its low solids content leaves the cloth soft and pliable.

Further, the low solids content of pastes made with VAT GUM 36 allows the residual gum to wash out of printed fabrics completely. It minimizes the danger of 'mark-offs' or bleeding in the ager or soaper. It assures an exceptionally high color yield — with a maximum depth and brightness of shade. Write for full information.

National also produces: AMBERTEX, a heavy-bodied thickener for white discharge, direct and vat color printing; AZO GUM for Rapidogen or Pharmosol, Indigosol or Algosol and Napthol colors; FIBERTEX for finishing sheer cottons and rayons; AMYLON, a cook-up type, to replace natural gums as a printing thickener; FABRIC ADHESIVE 584 to keep patterns in register and speed production.

Offices: 270 Madison Avenue, New York 16; Boston, Philadelphia, Chicago, Indianapolis, New Orleans, San Francisco and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto. In Holland: Nationale Zetmeelindustrie, N.V., Veendam.

National
STARCH PRODUCTS

STARCHES — *AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY*

KINKS & SHORT-CUTS

(Continued from page 138)

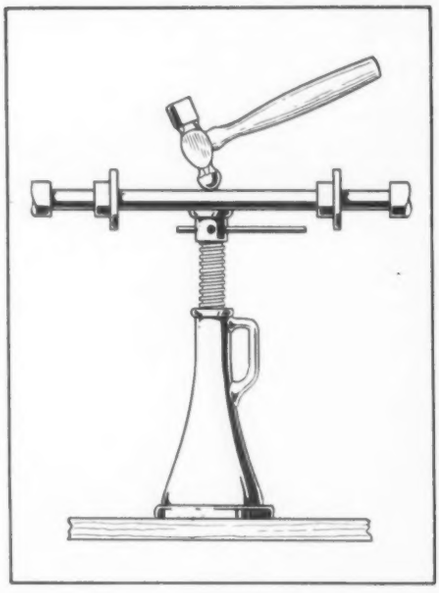
extend through the table to the floor. The rod should be just long enough to reach from the floor to the top of the cone.

Lift the rod slightly above the top of the cone, fasten hinges to each side of the rod, and fasten the hinges to the tops of the cone halves with screws. These hinges should be placed in such a way that when the rod is lowered the tops of the cone halves will be forced apart, and the hinges should be of a length to make the outsides of the cone halves perpendicular when the rod is lowered.

To the lower end of the rod fasten a foot pedal so that the rod may be forced downward with the foot. Attach one end of a spring to the rod at a point above the pedal, and secure the other end of the spring to the under side of the table. The spring should be sufficiently strong to raise the rod from the floor when the foot is removed from the pedal.

Also to the under side of the table, secure an L-shaped metal brace with a ring in the end to hold the rod in position as it is lowered or raised.

To use the device for reshaping a cake of yarn, place the tinted cake over the top of the wooden cone and press the cake to the base of the cone. Place one foot on the pedal, and push the pedal to the floor. Release the pedal, and remove the cake. *(K-492) Thurman H. Smith, Shelby, N. C.*



If the shaft does not run perfectly true when the machine is started up, replace the jack and strike the shaft again with the hammer.

Bent Shaft Straightened While Still in Machine

Frequently, a shaft in a machine becomes bent and removing it for straightening would result in a good bit of lost time. When such a maintenance job occurs in our mill, we use the method illustrated in the accompanying sketch for straightening the shaft without removing it from the machine.

Turn the shaft so that the convex side of the bend is toward the floor. Place a jack under the shaft at the center of the bend, and screw up the jack until the shaft is straight or bowed slightly upward.

With the shaft and jack in this position, strike the shaft sharply with the bald head of a machine hammer directly above the jack. *(K-527)*

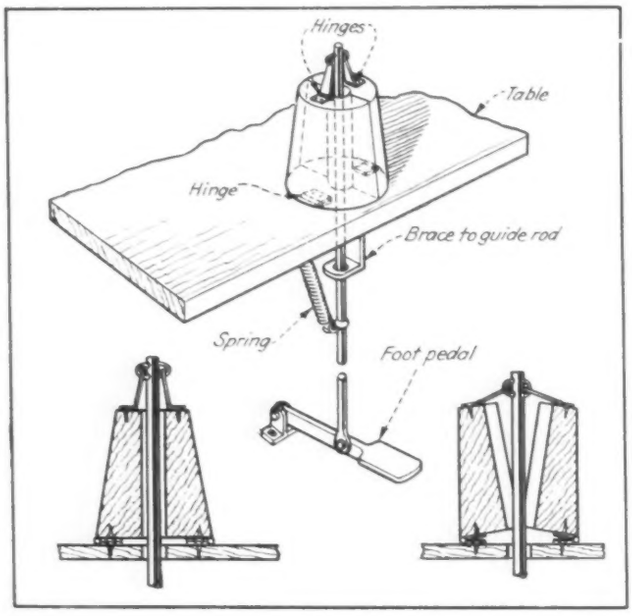
Brush on Bolster Rail Cleans Spinning Tapes

The spindle drive tapes on our wool spinning frames used to collect so much lint that they required frequent and regular cleaning to avoid slippage. We eliminated this trouble by securing small brushes to the bolster rail in such a position that the tapes ran against them and were kept clean.

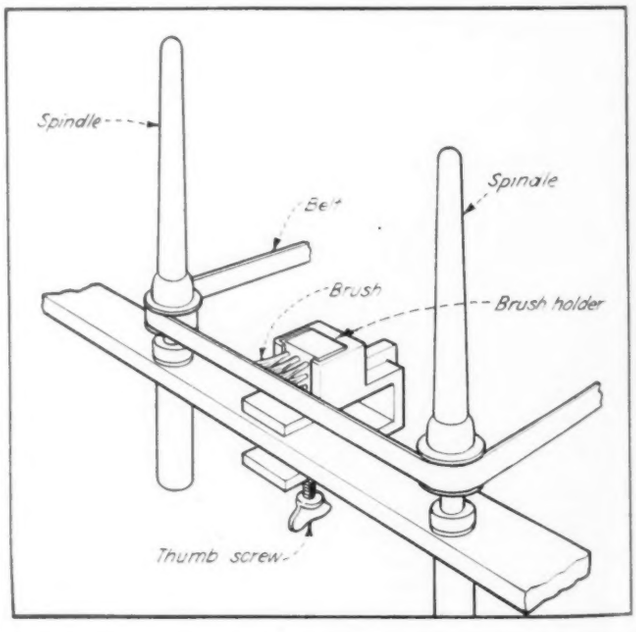
A casting which provided a bracket to be fastened to the rail and a holder for the brush was made, and a hole for a wing nut was tapped in the under side of the bracket. A small brush was placed in the holder, and the bracket was fastened to the back side of the bolster rail with the brush bearing against the tape. *(K-490) D. E. Powell, Bedford, Va.*

Gage For Stitch Height Must Be Held Securely

When a fixer on a seamless knitting machine is testing the height of a stitch-regulating cam, he often encounters trouble in holding the micrometer gage in place. The limited space on the outside of the needle cylinder does not

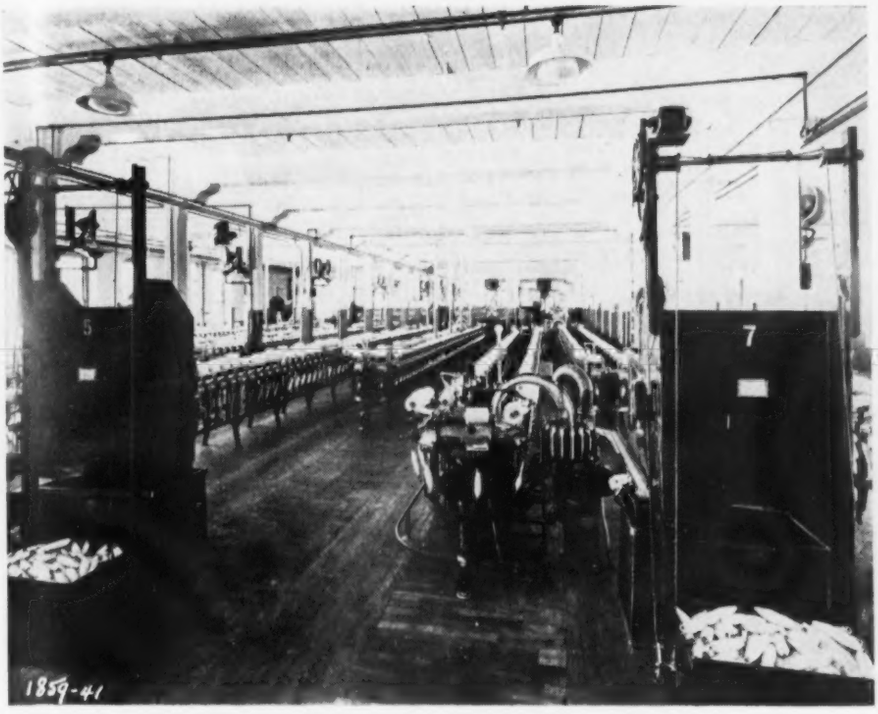


When the foot pedal is pressed downward, the rod and top hinges force the tops of the cone halves apart.



When a brush wears out, it can be lifted out of the holder and replaced with a new one.

ABBOTT AUTOMATIC WINDERS



Winding Average hourly production per operator 900 to 1000 bobbins per hour

2-oz.	Bobbin	112 lb. hr.
3-oz.	"	169 " "
4-oz	"	224 " "
5-oz.	"	280 " "
6-oz.	"	338 " "
7-oz.	"	380 " "
8-oz.	"	448 " "

These production figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder, and move directly into warper creels or to twisters or automatic quillers.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, Mr. L. S. Ligon, Greenville, S. C.

KINKS & SHORT-CUTS

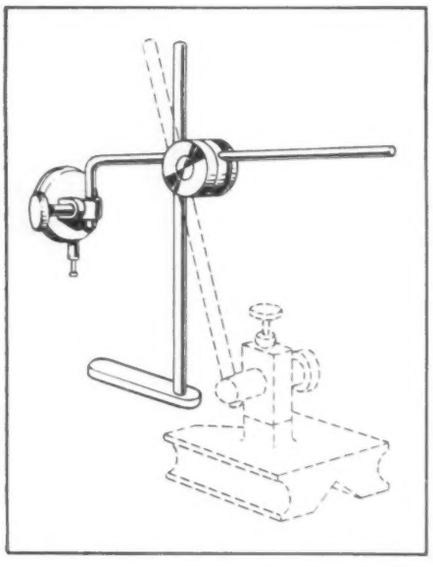
(Continued from page 140)

afford sufficient support on the cylinder bed for a gage with a standard-size base.

In order to gage cams accurately, we substitute a gage base designed so that it will rest firmly on the cylinder bed while the machine is in operation.

The base we use is 2x½x¼ in., and it is fastened to the needle cylinder bed with an ordinary C clamp. A vertical rod 5 in. long is screwed in one end of the base. To this upright member, the horizontal adjusting rod used with the gage may be clamped in such a manner as to allow the indicating point of the gage to rest on the upper finished surface of the sinker ring.

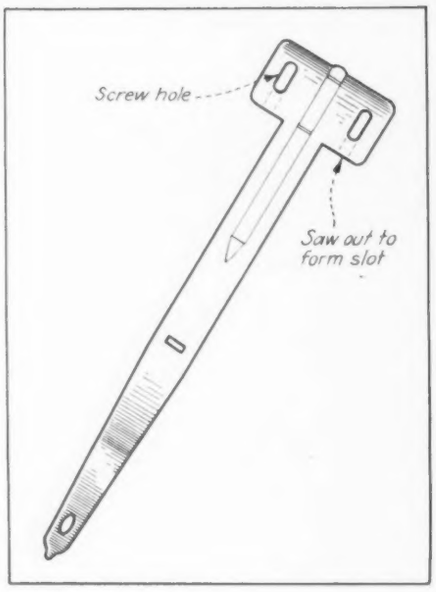
With the knitting machine in operation and the gage mounted in position, the fixer can accurately and quickly correct settings which result in different stitch lengths in the leg and foot of the hose. The gage is also helpful in adjusting the inside sinker ring at the top of the needle cylinder to prevent bowed-leg knitting. *(K-530) Walter A. Simond, Franklin, N. H.*



By substituting a narrow, long base for the standard base of the gage, the knitting fixer can secure the gage to the needle cylinder bed for an accurate test of stitch height.

Removing Leg Carrier Speeded by Cutting Slots

The tubes in the main leg carriers of a full-fashioned knitting machine must be changed about every two weeks when the machine is knitting nylon hosiery. Many full-fashioned machines do not have carriers with interchangeable tubes; and it is necessary to solder a tube in a spare carrier, remove the two screws which hold the carrier with the worn tube in place on the machine, and install the spare carrier.



Cutting out the screw holes to form slots eliminates the necessity for removing the screws to change yarn carriers on a full-fashioned knitting machine.

Removing and replacing the screws takes a good bit of time; and since the carriers must be changed so frequently, eliminating the necessity for removing the screws is a worth-while saving.

In our plant, we cut out the lower sides of the screw holes in the carriers to form slots. To remove a carrier now, we only loosen the two screws, lift the carrier out, slide a carrier with a new tube over the screws, and tighten the screws. *(K-534) James Chrisman, Louden, Tenn.*

Strength of Sewn Seam Calculated by Formula

To aid plants in determining sewing-thread combinations, number of stitches per inch, and number of rows of stitching to use in sewing various kinds of goods, the following formula has been worked out from exhaustive tests made by Union Special Machine Co.:

Strength of seam (lb. per in.) = breaking strength of needle thread (lb.) *times* twice the number of stitches per in. *times* number of rows of stitches.

Example 1. Find the strength of a seam in pounds per inch (Seam specification 401-LSc-2, 16 per in.; double-locked stitch, double-felled seam, two rows of stitches; thread strength, 1 lb.): Strength of seam = $1 \times 2 \times 16 \times 2 =$ 64 lb. per in.

Example 2. Find the strength of needle thread necessary to hold a fabric having a breaking strength of 90 lb. (Seam specification 401-LSc-2, 10 per in.): Breaking strength of needle thread $= 90 \div (2 \times 10 \times 2) = 2.25$ lb.

Example 3. Find the number of stitches per inch necessary with the seam and thread in example 2: Stitches per inch $= 90 \div (2 \times 2 \times 2.25) = 10$.

If the breaking strength of the thread is expressed in ounces instead of pounds, use ounces but divide by 16 to get the breaking strength of the seam in pounds per inch. *(K-535) The Needle's Eye*

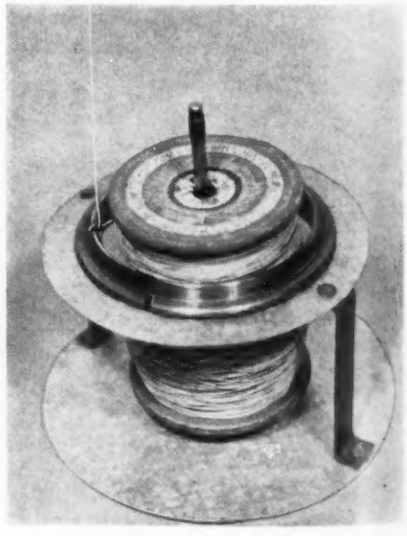
Rayon in Worsted Warp Needs Tension Control

We often use filament-rayon yarns as striping ends in worsted warps. If the rayon is drawn directly from the spool, too much tension is usually put on the yarn. In order to eliminate this tension, we developed the device shown in the accompanying photograph.

A stand—consisting of a base plate, upright supports, and a ring plate—is made of metal, the two plates being of galvanized iron and the supports are of malleable iron. The base plate is 7½ in. in diameter, and the ring plate is 6 in. in diameter.

In the center of the base plate, a ¼-in. hole is drilled for securing a spindle upon which the spool of yarn is mounted. In the center of the ring plate, a hole large enough to receive the holder of a 4-in. twister ring is drilled; and the ring holder, ring, and traveler are mounted.

In using the device on our warping creel, we place a spool of filament-rayon



The traveler and ring are placed in a position slightly lower than the bobbin head so that the yarn, in unwinding, does not pull against the head.

RAISE YOUR QUALITY STANDARDS AND YOUR PRODUCTION CURVE WITH DAYCO ROLL COVERINGS

HERE ARE IMPORTANT REASONS WHY YOU SHOULD USE DAYCOS

1. Large reduction of ends down.
2. More foreign elements removed from yarn.
3. Specially compounded for uniform wear, lengthening service life.
4. Equally effective for special types of synthetic and synthetic blends of yarn.
5. Decreases flying lint in spinning room.
6. Not affected by temperature changes.
7. Oil resisting and static free.
8. No grooving—less ends down.
9. Easy to apply.

Daycos are Specially Engineered to Give Maximum Results on All Types of Frames

Whether your frames are equipped with flat clearers or revolving clearers, there is a specially engineered Dayco Roll Covering designed to give you greater uniformity of yarn and increased production.

Dayco Roll Coverings do this because they have ideal cushion, exactly the right coefficient of friction and are unaffected by humidity changes or temperature extremes throughout an exceedingly long life. Their surface is so tough that it never grooves, hollows out, flattens or distorts. Since Daycos are static free, lapping up is practically unknown.

Daycos lower your costs, too, because accurate accounting records have proved that the cost-per-hour of operation with Dayco Roll Coverings is definitely less.

Check the nine advantages listed at the left which you get with Dayco Roll Coverings. Then let us prove these specially engineered cots can help you raise both your quality standards and your production curve. Write today for complete information.

THE DAYTON RUBBER MANUFACTURING COMPANY
DAYTON 1, OHIO — WAYNESVILLE, N. C.
MAIN SALES OFFICE: WOODSIDE BLDG., GREENVILLE, S. C

SPECIAL TYPES OF ROLL COVERINGS ARE AVAILABLE FOR FRAMES EQUIPPED WITH FLAT AND REVOLVING CLEARERS

Dayton Rubber

THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

FAMOUS DAYCO SYNTHETIC RUBBER PRODUCTS SINCE 1934

KINKS & SHORT-CUTS
(*Continued from page 142*)

yarn on the spindle, thread the traveler, and put the yarn end in place in the warp. When the warper is running, the traveler moves around the ring, holding the yarn in a position to permit unwinding the spool with a minimum of tension on the yarn. *(K-532) Arthur Spivey, Huntingdon, Quebec.*

Spinning-Roll Spreader Made From Scrap Steel

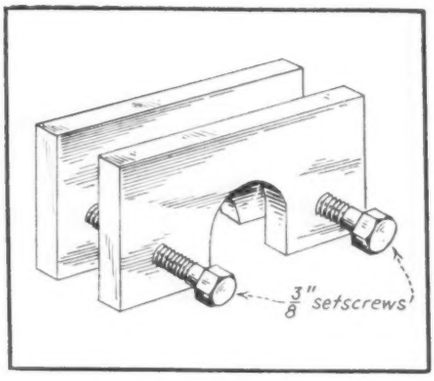
Spinning overhaulers and fixers often find that disjointing a steel roll is difficult because the fittings have corroded. I made a roll spreader which has given satisfactory results in our plant.

To make a similar spreader, secure two pieces of flat steel ¼ in. thick, 3 in. long, and 1½ in. wide. In one piece, drill a 1-in. hole in the center of its length and ½ in. from the bottom of one side. One side of this hole will be at the edge of the piece of steel. Cut out this side of the hole to form a 1-in. slot to slip over the roll at the joint.

To each side of the slot, drill and thread a ⅜-in. setscrew hole; and select two setscrews 2½ in. long.

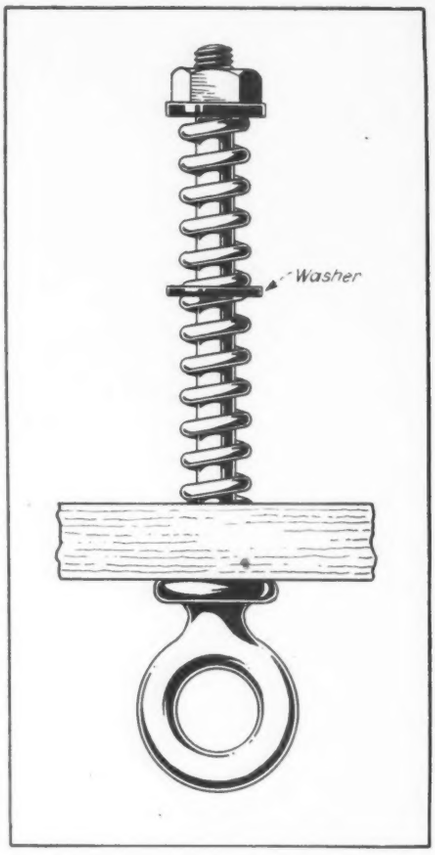
In the other piece of flat steel, make a 1-in. slot similar to the one made in the first piece; but instead of tapping setscrew holes in it, make only small indentions for seating the ends of the setscrews.

To use the spreader, place the two pieces of flat steel over the joint of the roll and insert the setscrews into the holes in the first piece of steel. As the setscrews are tightened against the indentions in the second piece of flat steel, the two pieces of steel apply pressure against the shoulders of the roll, forcing the rolls apart. *(K-513)*



The roll spreader can be made for any size roll by varying the size of the slot.

Broken Cushion Spring Held in Place by Washer



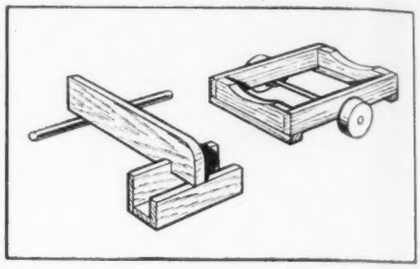
Broken springs are an occasional source of annoyance, particularly if a replacement spring is not readily available. In order to use a broken cushion spring until it can be replaced by a good spring, ground the broken ends so that they will fit flat against a washer placed between them. The washer prevents the two pieces of spring from interlacing, so that each part will still carry its original load. (K-526) L. Kasper, Philadelphia, Pa.

Force of Gravity Aids Doffing Slasher

Our slasher room is not equipped with hoisting devices for doffing slashers; and in order to eliminate lifting the warps and placing them on the warp trucks, we have devised a means for rolling the warps by gravity onto the trucks.

A short length of 2x6-in. lumber is placed on edge, with one end on the press-roll shaft at the front of the slasher and the other end on a stand. Two stands should be built to a height which allows a 1-in. fall from the shaft. Round off the corners of the 2x6 directly above the stand, as shown in the accompanying sketch, and fasten the lower corner to the stand.

When a slasher is ready to doff, place the stands in front of the slasher and allow the free ends of the 2x6's to rest on the press-roll shaft. Place the warp truck directly in front of the beveled corners of the boards. Loosen the hand screw, cut the warp, secure the warp ends with sticking tape, pull the warp forward, and allow it to roll down the board onto the truck. *(K-520) E. L. Crockett, Florence, Ala.*

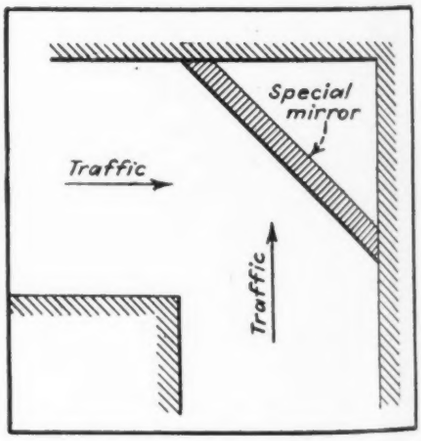


The 1-in. fall from the square end of the board to the beveled end permits the warp to roll from the slasher onto the warp truck.

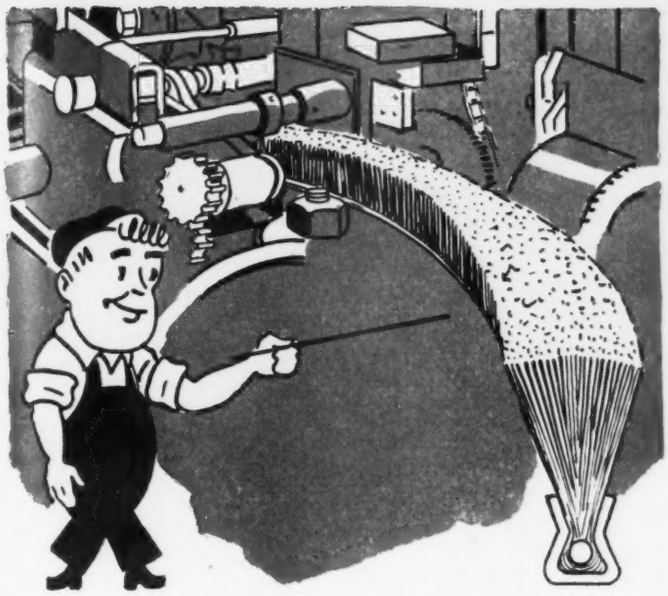
Blind Corner Eliminated By Use of Large Mirror

In our finishing department, we have a cloth dryer in one corner of a room; and because the room is situated between the weave room and the mill supply room, there is a considerable amount of traffic around this dryer. The dryer is so high that it obstructs vision, and several minor accidents have occurred in this blind corner.

We found that a large mirror placed about 3 ft. above the floor and located so that vision was reflected around the dryer was a satisfactory solution to the problem. We reinforced the mirror with a strong frame, and so far it has not been broken. *(K-503)*

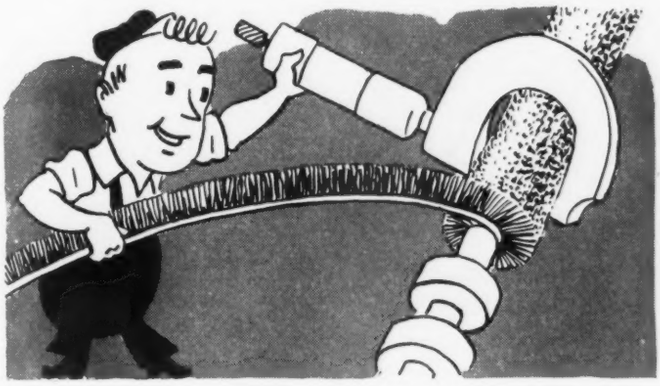


The problem of a blind corner behind a cloth dryer was solved by the use of a mirror.



FULLER-GRIPT BRUSHES *are Engineered* TO YOUR NEEDS

1. Fuller-Gript Brushes are manufactured to meet your exact requirements, The steel back can be varied in width from 5 10" to 1¼" depending upon the required length of brush material. The brush material itself is selected to do your job most efficiently. A continuous mass of it is rolled into the metal backbone where it is held in a vise-like grip.



2. Fuller-Gript strips are built to close tolerances. When it is time to replace, the new strips will be exact duplicates of the old ones in size and performance. They can be installed in most cases by your own men, often without tearing down the machine.

3. The strips are versatile — they can be wound, spiraled, bent or laid straight on cores from ¼" to 3' in diameter, depending upon your specifications. Fuller-Gript Brushes are proving their superiority in many industries in a wide range of applications.

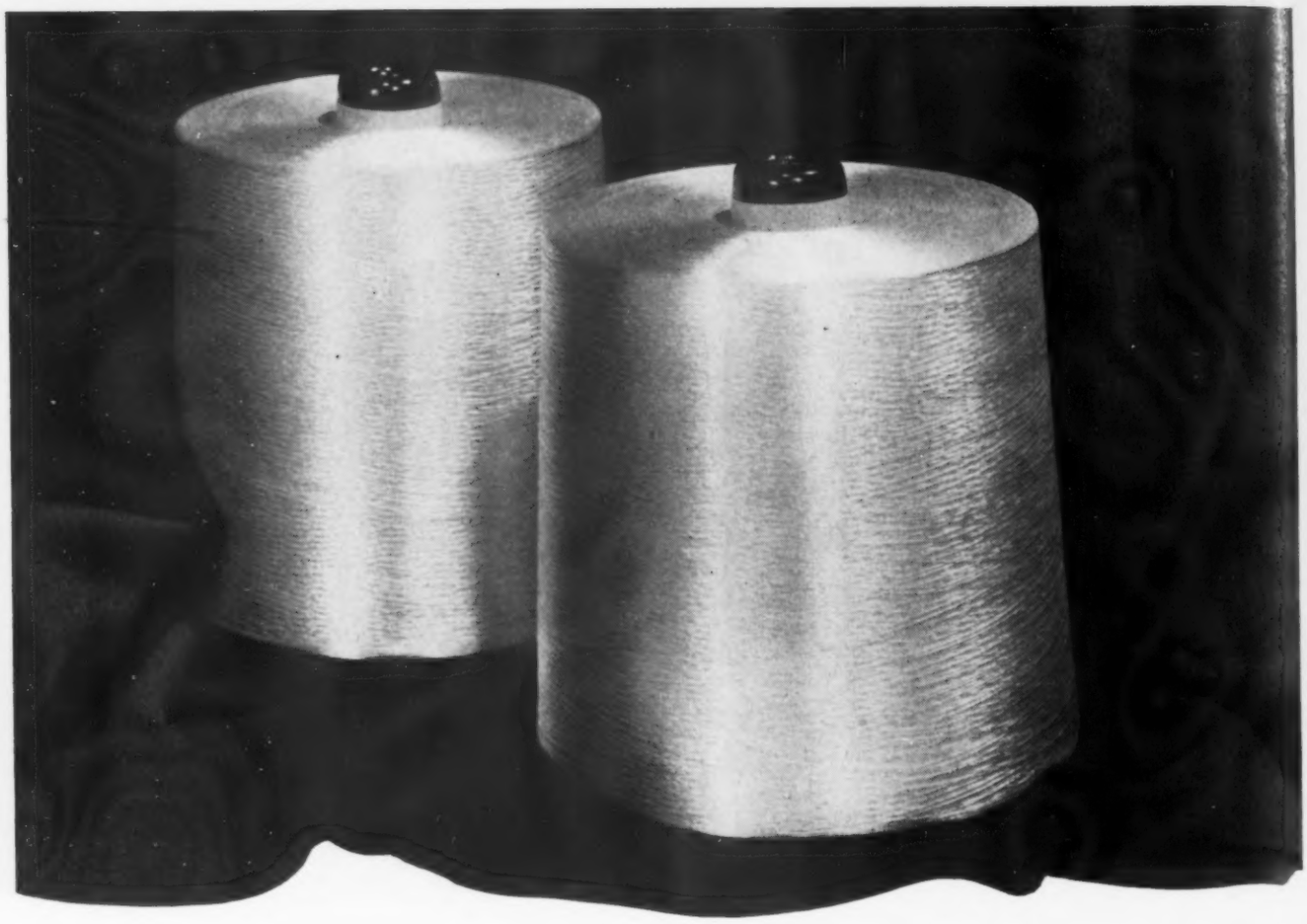
From the beginning straight through to the end of their fabrication, Fuller-Gript Brushes are engineered to your needs — to give you the utmost in wear and efficiency. You will find that they can be used to advantage in all of your brush applications, no matter what they may be.

Our engineers will welcome the opportunity to help you apply Fuller-Gript Brushes to your equipment. And if you'd like a sample Fuller-Gript strip, just drop us a line.

Fuller Gript

BUILT-TO-ORDER BRUSHES FOR YOUR EQUIPMENT

THE FULLER BRUSH COMPANY
INDUSTRIAL DIVISION
3594 FULLER PARK, HARTFORD 2, CONNECTICUT



PROTECTING, PRESERVING THE ORIGINAL QUALITY OF THE YARN

LEESONA

REG. U. S. PAT. OFF.

Why is the Universal Precision Cone used far more than any other type of cone for synthetic filament yarn?

It is precise-wound, compact and secure, uniform in density throughout. Its shape provides free delivery without plucks or without dragging over the nose end. It contains a maximum amount of yarn, wound under accurately controlled tension, carefully inspected, with imperfections removed.

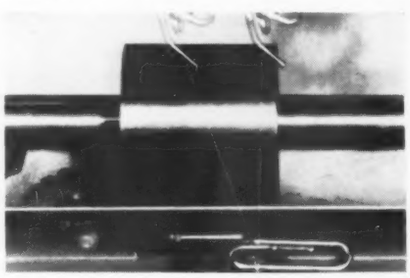
This Universal Precision Cone will withstand abuse in handling and will deliver yarn freely, in perfect condition, with minimum interruption.

You can identify it by the flat base, exclusive with Universal.

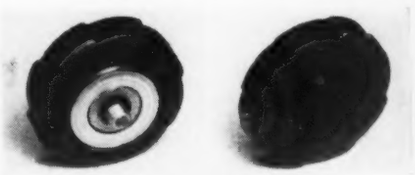
Universal Winding Company at Providence, Boston, Philadelphia, Utica, Charlotte, Atlanta, Chicago, Los Angeles, Montreal and Hamilton. See our Catalog in TEXTILE WORLD YEARBOOK.

A Universal Feature Contributing to *Cone Quality*

For conditioning rayon yarn with oil, the No. 50 Emulsion Attachment provides a means of constantly and accurately changing the angle of contact between yarn and Emulsion Roll, so that oil pickup is uniform despite increasing yarn speed as the winding package increases in diameter.



Double exposure showing changed angle of the yarn across the roll.



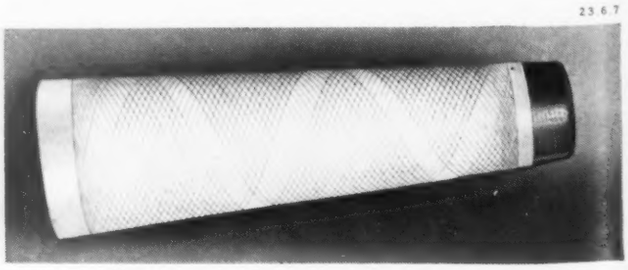
Stopping Lever Wheel
Left, The face Right, The back

A Universal Feature Contributing to *Economical Winding*

Typical of Universal's engineering and manufacturing is the No. 50 Stopping Lever Wheel. It is turned from bar steel, and the serrations are uniformly cut on a gear shaping machine. It is case hardened, and finally lapped on the inside face for smoothness.

23.6.7

MORE THAN 90% OF ALL SYNTHETIC FILAMENT YARN ON CONES IS PRECISE-WOUND ON THE FLEXIBLE 50



LETTERS to Pete & Bill, discussing material in this department, are paid for when published. Suggestions for the Pete & Bill dialogue will also be paid for if used. If these pages interest you, contribute something to interest others. Address PETE & BILL, Textile World, 330 West 42nd St., New York 18, N. Y.

Pete & Bill

SWAPPING EMPLOYEES

Is it justifiable to permit one department, if short handed, to borrow help from another department, assuming, of course, that the operative can perform the duties assigned to him?

SAY PETE, WILL YOU LET ME HAVE MRS. O'HARA FOR THIS SHIFT TO ASSIST SAM SMITH DOWN IN MY ROOM? I'M SHORT-HANDED TODAY
WHY YOU INFERNAL THIEF! I LIKE YOUR NERVE IN BELIEVING I CAN SPARE ANY HAND IN TIMES LIKE THESE
1
SHE'LL GET THE SAME RATE FOR TIME PUT IN. THE WORK'S LIGHTER AND SHE'LL THINK YOU'RE DOING HER A FAVOR
LIGHTER WORK AND SAME PAY! DO YOU WANT HER TO BE DISSATISFIED WHEN SHE COMES BACK TO MY DEPARTMENT?
2
THIS IS AN EMERGENCY! I'VE GOT 10 HANDS OUT AND I CAN'T KEEP THE MACHINES GOING WITHOUT HELP.
WELL, I'VE GOT JUST EXACTLY ENOUGH. WHY SHOULD I BE SHORTHANDED ONE, EVEN IF YOU ARE SHORT TEN?
3
BEING ONE SHORT WON'T HURT YOU MUCH, BUT TEN SHORT IS RUINING MY PRODUCTION AND COSTS. IT'S ALL IN THE COMPANY, YOU KNOW
I STILL CAN'T SEE WHY I SHOULD BE PENALIZED FOR YOUR FAILURES, BILL. BUT I'LL DO WHATEVER OUR READERS SAY. WHAT SHALL IT BE FOLKS?
4

Letters From Readers

Give the Vet a Chance for Retraining

"Training for a Mill's Veterans"
(Peter & Bill, Nov. 1945)

Dear Pete & Bill:

Pete, as usual, is advocating the proper method of procedure in giving returned veterans, former employes, retraining and individual adjustments. The plant will benefit by such methods, which, we must agree will prove beneficial and worthwhile to all concerned. I am confident, too, that the little retraining necessary will result in the stepped-up production, now so much needed.

New methods, introduced since the boys went away, makes retraining imperative, and I am sure that they will cooperate accordingly, bringing about a better understanding. (PB 801)

Bad Policy for Supervisor to Employ Kinfolk

"Supervisors' Kinfolk"
(Peter & Bill, May 1946)

Dear Pete & Bill:

To employ a certain person on a job simply because he is the supervisor's relative can strictly be called "gross negligence" on the part of the overseer.

A most important part of a supervisor's job is to see that his department functions smoothly and efficiently. If his kinsman is not a producer, he cannot very well cover up this fact for too long a period. Management, no doubt, will discover from its production records that this non-producer remains on its payroll and will make an inquiry as to the reason for this. The overseer knows that the finger will point at him and he will be forced to let out his favorite cousin.

There are jobs, however, which do not call for direct supervision, and consequently, there is no daily work report for these positions. In this case a relative could hang on for a greater period. However, his associate employees would naturally talk about this person, and, when the comments reach the ears of the management, an investigation and

discharge of such inefficient employee are likely to result.

Management will not tolerate inefficiency. In order to have a highly successful organization, "slackers" and nonproducers must be eliminated from its ranks. With average and better-than-average workers, there can be nothing but smooth sailing ahead. (PB 802)

Quality Meetings Will Engender Bad Feeling

"Quality-Control Meetings"
(Pete & Bill, June 1946)

Dear Pete & Bill:

I agree with Bill's attitude on the doubtful value of a get-together between overseer and management of a plant to correct faults or bad quality of the product.

In my experience, such meetings have generally resulted in making enemies and bad feelings among the heads of departments through someone making a statement concerning another department in the plant.

If the product of a plant is not up to par, the proper way, I think, is for the management to have personal contact with the head of a department and talk over with him the defects in the output of his room, for he alone is responsible for the quality of the work he turns out of his department. (PB 803)

Technicians and Production Men Are Inseparable

"Production or Research"
(Pete & Bill, Sept. 1945)

Dear Pete & Bill:

Technical knowledge is acquired by the class room and research laboratory technique; and the engineer who claims by such procedure to have all it takes in development is heading for trouble—and by the same logic so is the supervisor or foreman who has an idea that his "know how" has all the answers in a fast-changing industry. I know this is true from experience in an industry where nearly all processing and production methods were pioneered by our own staff.

Technical men and production men are as inseparable as the Siamese twins —if their particular industry is to keep abreast. Cooperation and the giving of credit when and where it is due is very essential, and the measure to which it is indulged marks the progress or its lack in modern industry.

Let each lend his particular type of knowledge, however acquired, to the other unselfishly for use, and both will succeed. (PB706)

Books of Interest

A Labor of Love for Elastic Webbing

THE HISTORY AND ROMANCE OF ELASTIC WEBBING, by Clifford A. Richmond, Easthampton, Mass.; 222 pages, $1.50.

Mr. Richmond, chairman of the board of United Elastic Corp., has performed a labor of love for the elastic webbing industry, in which industry he has spent most of his business life. He has produced a volume of valuable historical material and given the breath of life to numerous prosaic facts. The record starts with Luther Clark in Northhampton, Mass., in 1838, tarries a while with Charles Goodyear, and then goes on into the ramifications of a multitude of businesses based on combing elastic rubber with textile yarn in such a way as to produce fabrics which stretch and recover. The book sparkles with names of men, companies, and places and an occasional anecdote. Mr. Richmond is sure to impress his readers as a man who knows what he is writing about. The brief index lists the 37 divisions or chapters which are broken down geographically or by companies or men. The one supplement to this work which a good librarian could contribute would be a complete index giving references to all proper names and chief subjects. Such an index alone would run many pages, and would disclose at a glance the wealth of personal information which the author has collected. The other branches of the textile industry are awaiting a protagonist who can do as good a job for them as Mr. Richmond has done for elastic webbing.

Pamphlet on Prerogatives of Management

WHAT TO DO ABOUT MANAGEMENT PREROGATIVES, supervised by Leo M. Cherne, Research Institute of America, 292 Madison Ave., New York.

A further invasion of management rights by unions is foreseen by the Research Institute of America in the immediate future. "Stiff wage demands will be used more and more frequently to force concessions on non-wage matters and to win greater union authority in the daily conduct of plant affairs," the Institute asserts. The warning is contained in a special report, "What to Do About Management Prerogatives."

"In the body of a union's contract demands," says the report, "you will find that the opening wedges for a direct invasion of management prerogatives are usually contained in the clauses dealing with union-management cooperation; mutual consent, seniority and promotion, and unlimited arbitration of issues arising under the contract or during union contract negotiations. In addition, you can also expect conflict in the immediate future on management prerogatives in these areas: prices and profits, location of plants, technological innovations, sources of supply, industry-wide bargaining, distribution and production policies, conversion of personnel practices into mandatory contract provisions, and safety provisions. Management's main line of defense is the actual wording of individual clauses throughout the contract, plus a general management prerogative clause to cover unforeseen circumstances."

First Trade Directory of Home Furnishings

HOME FURNISHINGS DIRECTORY, National Retail Furniture Association, 666 Lake Shore Drive, Chicago; 500 pages, $12.50 and $16.00.

This directory classifies and indexes 12,000 products made by 6,000 home goods manufacturers, developing more than 120,000 product supply sources. All classes of home furnishings are included with the products classified to reflect use, material, finish and style characteristics. General categories of merchandise indexed, including 40 pages of "brand names," are: furniture, floor coverings, bedding, appliances, fabrics, shades, blinds, gifts, artwares housewares, wheel goods, operating supplies, and equipment.

A Worth Street Directory

WORTH STREET SELLING HOUSE DIRECTORY, N. Y. Journal of Commerce, 63 Park Row, New York; 25¢.

This new directory lists the leading textile selling houses, what mills and firms each selling house represents, what types of fabrics they distribute and their officers, including the names of individual sales and department managers. It is designed primarily for buyers of textiles.

. . . THE BEGINNING OF KNITTING YARN

HAVING VITAMIN Q

When cotton is picked and sent to us . . . from there on in its OUR Story. Because it is Boger and Crawford that process this cotton into knitting yarn having that all-important feature . . . Vitamin Q, "Quality". The process of insuring this *extra* Quality in our knitting yarn is expensive to us, but from users' reports it is well worth our effort. Knitting yarn is poor without Quality. So, in selecting your yarn, look for Vitamin Q—"Quality". Every inch of Boger and Crawford yarn is steeped with Vitamin "Q".

The Quality of Boger and Crawford knitting yarn is guaranteed — the highest tribute we can pay it. Signed . . . . . .

Fredericka Boger

BOGER and CRAWFORD PHILADELPHIA, PA.

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Round Table

FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

Carpets Can Be Knitted At High Production Rate

The production of carpets by machine knitting is quite a novel idea; and after considerable study and practical experimenting, the writer believes that there are promising possibilities for this type of fabric. The production of pile carpets by weaving is a complicated process, and the space occupied by the looms and preparatory machines is great. Knitting machines occupy little floor space, are comparatively light in weight, and lend themselves to rapid production.

Many arguments will be advanced by the weaving experts to prove that carpets knitted on the lines suggested are inferior in design and wearing properties to those produced on looms. These criticisms are justified to a certain extent, but I claim that knitted carpets can be made with quite attractive designs. The wearing properties should also be good.

There are several known methods of producing a pile surface on knitted fabrics. The novelty of my suggestion lies in a simple development of known methods and the backing of the material by rubber. The principles involved are illustrated in the accompanying sketches.

The edges of the fabric would require

QUADRAFOS REPORTS — — TEXTILE FIELD

Number 3

RUMFORD CHEMICAL WORKS
Technical Service Department
PROBLEM: HOW TO IMPROVE COLOR DISPERSION IN COTTON DYEING
METHOD: Add QUADRAFOS to the water in which the dyestuff is to be dissolved, using 0.1 to 0.25% on the weight of the goods. (More is sometimes required if water is unusually hard or if the goods contain a large amount of contaminating material.)
RESULT: Greatly improved leveling and dispersion of color. Of particular value in the application of iron or calcium sensitive vats. Note: QUADRAFOS in naphthol coupling bath prevents later trouble in soaping off.
COTTON
COTTON
RAYON
LINEN
SILK
WOOLEN
WORSTED
TEXTILES
QUADRAFOS

Highly efficient as a detergent, dispersing agent and deflocculant, QUADRAFOS* brings proven benefits to practically every step in textile wet processing. You'll save money and solve many problems with this hard-working polyphosphate. In dyeing, sizing, printing, and wherever soap is used, QUADRAFOS ($Na_6P_4O_{13}$) does a real job for you.

Get the complete story on production-building, money-saving applications of QUADRAFOS, Beads and Granular ask for Bulletin 140 "Textile Processing with QUADRAFOS." For specific information on individual problems, write Rumford Technical Service Department.

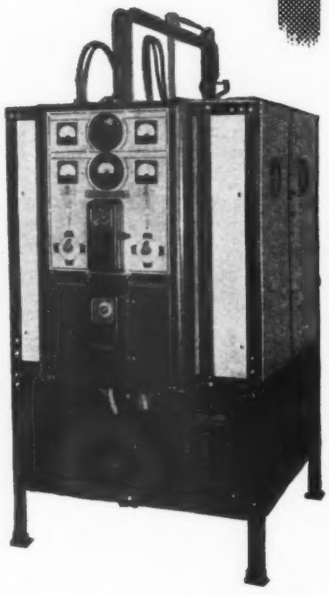
QUADRAFOS

*U. S. Reg. Trade Mark for Sodium Tetraphosphate made by Rumford

RUMFORD CHEMICAL WORKS

11 NEWMAN AVE., RUMFORD 16, RHODE ISLAND

Speed up Father Time by using an Atlas Weather-Ometer



Years of actual exposure to weathering are reduced to a few days testing in the Wether-Ometer.

The deteriorating effect of exposure to weather is a factor that must be known to positively assure the dependability of materials used outdoors. Fabrics, finishes, paints, rubber, plastics and hundreds of other products can be tested in the Weather-Ometer and their resistance to the deteriorating effects of outdoor exposure determined.

The Weather-Ometer produces an accelerated weathering action by controlled cycles of light, water spray, selected temperatures, and humidity. Operation is completely automatic, can be left running without attention 24 hours a day. Various materials can be given exactly the same test by setting the Cycle Meter according to the prescribed test program.

Used all over the world

★ WEATHER-OMETER
★ LAUNDER-OMETER
★ FADE-OMETER

SALES REPRESENTATIVES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

ATLAS ELECTRIC DEVICES CO.
361 West Superior Street, Chicago 10, Illinois

machining to prevent loops running. A circular machine of 4 to 6 needles per inch and 12 in. in diameter would probably produce as much as 20 yd. per hr. and gives a fabric width of 27 to 30 in. A similar machine 36 in. in diameter would produce approximately 18 yd. per hr. in a width of approximately 7 to 8 ft. One operator would probably operate four or five machines and produce approximately 100 yd. of fabric per hr.

This production claim is extremely modest and would almost certainly prove an underestimate. (R-289)

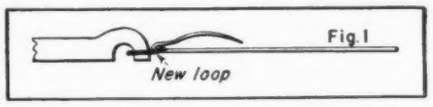


Fig. 1. A loop being formed by a sinker. The yarn is laid on the needle, and the sinker forms the yarn into a loop in the hook. This action would produce a plain knitted fabric.

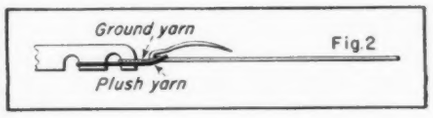


Fig. 2. Two loops of different lengths, one for the ground and one for the pile surface, are formed as shown here. The pile loop may be cut automatically to produce plush.

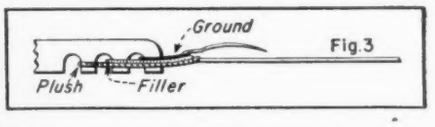


Fig. 3. The carpet stitch suggested in the accompanying text consists of ground, filler, and plush yarns.

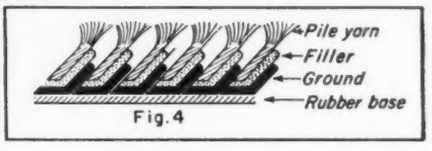
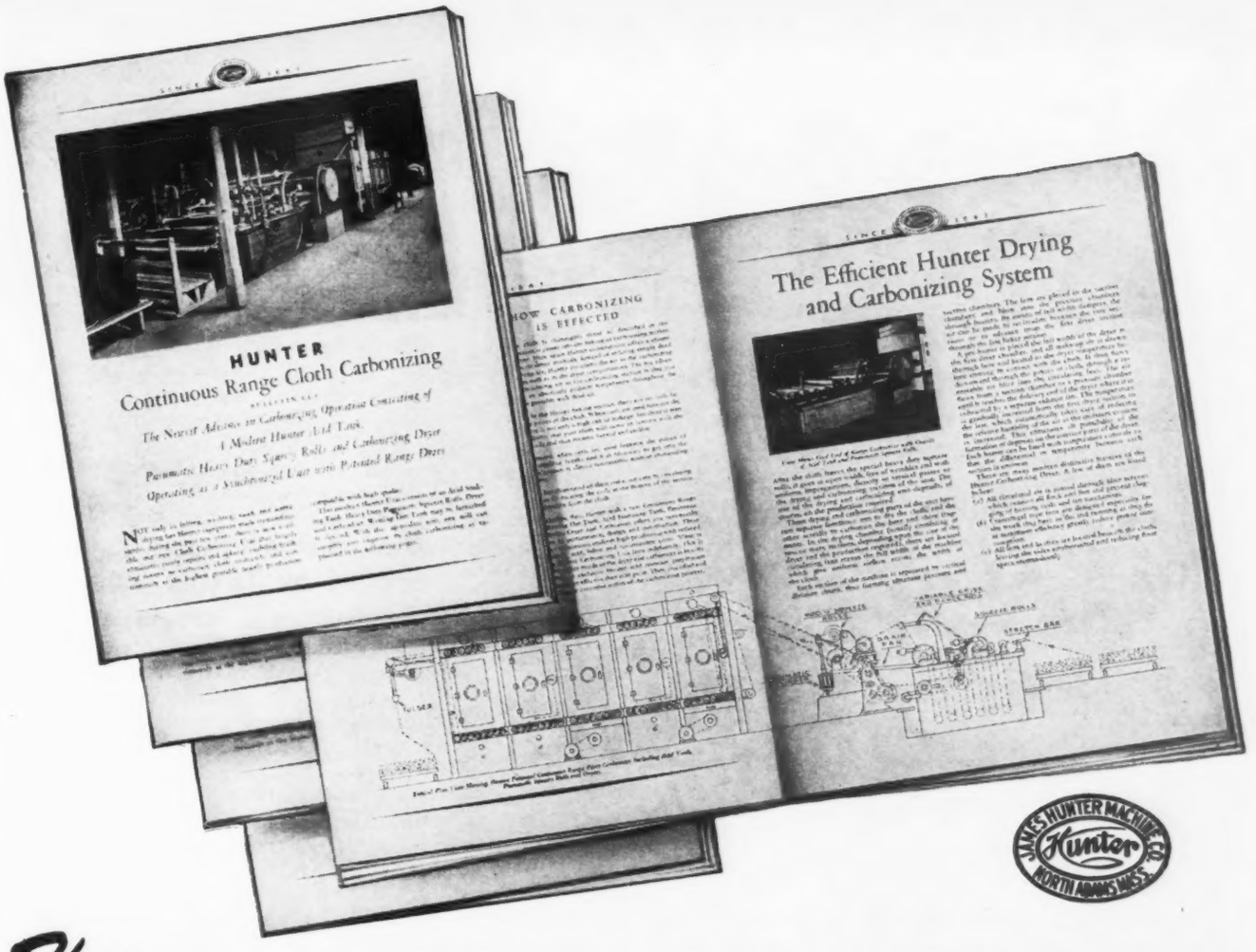


Fig. 4. A diagrammatic sketch of the fabric resulting from the suggested carpet stitch. Note the rubber backing which is added in an operation subsequent to knitting.

German Textile Reports Can Advance Industry

I have worked for more than fifteen years as a consulting engineer for textile plants in Czechslovakia, Austria, Hungary, Germany, and other European countries, including England. I have seen a large number of plants all over the world, and I know that prac-



How TO PIECE CARBONIZE WITH CONTROLLED TENSION AND WITH NO LOSS IN WIDTH OR WEIGHT—AT HIGH SPEEDS

We cordially invite you to write for the new brochure pictured on this page. It will tell you how Hunter offers any mill the newest advantages in carbonizing equipment with performance pre-tested and production guaranteed and cost determined before you install the equipment.

It will tell you how this modern unit, consisting of a lead lined Acid Tank, Pneumatic Heavy Duty Squeeze Rolls and Carbonizing Dryer, operates as a synchronized unit with patented range drive.

It describes in complete detail the new Hunter patented Range Drive which affords you these important aids to the salability of your fabric:

a. Uniform tension on goods throughout the unit.

b. Complete elimination of impaired tensile strength.

c. Complete protection against streakiness and marked surfaces on face finish goods.

d. No tendering of cloth in seams or anywhere in the piece.

e. Absolute guarantee against building up of slackness and undue tension in the unit.

This new 8-page bulletin will be a valuable addition to your technical files. A request from you on your letterhead will bring the brochure by return mail with absolutely no obligation on your part.

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tically every country is leading along some textile lines.

However, in reading the reports on German textile technology (TEXTILE WORLD, May) I got the impression that some of the experts who went to Germany were more interested in establishing American supremacy than in learning new ideas and new methods of approach.

In many respects, the American industry is superior, and the industry of the rest of the world could learn from us; but there are also many good ideas conceived in other countries which could, if explained correctly with all details, fertilize and advance the American industry. *(R-291)*

Closed-Door Policy Scored by Textile Man

Congratulations on the editorial "Don't Hide Your Light" in the June issue of TEXTILE WORLD! I sincerely hope that some particular executives of the textile industry read it and read it well.

To one brought up in a textile environment of secret mill operations behind closed doors, the cooperation between mills seems particularly desirable. It is not hard to see that if mills do not loosen up, they will fall far behind. The advantages that many Southern mills have are because of their cooperation.

In a survey now being conducted, about 75 mills located both in the North and the South were asked for some minor information regarding operating policies. Response from the Southern mills, has been splendid; but from the Northern mills, the response has been almost negligible. Yet, there is not a mill in the country which will not benefit in some measure from the results of this research.

I just wanted to let you know that I think the editorial is on the right track, and I think that the future generations of textile executives will back it up. Too many persons have been kept from acquiring a little knowledge by the closed-door policy. *(R-290)*

Machine Manufacturers Should Get Ideas From Mills

There is a strong feeling among executives in textile mills that modern designers of mill machinery should be able to find ways of simplifying the complicated machines now in use in textile-manufacturing plants and, at the same time, produce streamlined models that will (1) occupy less space in plants, (2) produce less heat, (3) provide for self lubrication to a greater ex-

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tent, and (4) cut production time by eliminating unnecessary motion and action.

It seems to me that manufacturers of textile-mill equipment would make more rapid progress in creating new designs to meet a growing demand for simplification and speed if they would cooperate in setting up an experimental center in which designers and engineers could work out new ideas submitted through a panel of designers, engineers, and selected representatives from among operatives that use the machinery after it has been designed and manufactured.

I believe that it is true that designers often cannot take the next step forward in progressive machine designs because they do not actually do the daily work at the machines—which means that short-cuts, or new ideas, may escape them in their work.

On the other hand, an operative who uses a machine day in and day out may have ideas about what could be done but does not possess the necessary training and skill that would enable him to know how to work out the engineering angles of his ideas. If picked men were brought into conference with designers of machines, the ideas of these men might prove valuable. Even if a suggestion offered could not be worked out exactly or should prove to be unfeasible, the chances are that the designers and engineers would be stimulated into seeing solutions that now escape them.

That valuable suggestions do come from the rank and file of workers has been proved beyond doubt by the response to the idea of the "suggestion box" installed in many plants during the war. Suggestions dropped into these boxes ranged from minor suggestions for reducing red tape and complicated routines to ideas for new machines or time-saving gadgets to be used on machines.

If the various machine manufacturers do not want to set up a central planning group, they might adopt the idea of the suggestion box with good results.

It is quite understandable why individual mills which are creating new designs do not wish to make these innovations generally available. It is also understandable that if mills are sufficiently interested in progressing to set up experimental units and actually develop innovations that are serviceable, there is a need for action on the part of mill-supply manufacturers. (R-288)

Checking These Items Will Aid Maintenance

Frequent inspections and prompt remedies will do much to decrease plant

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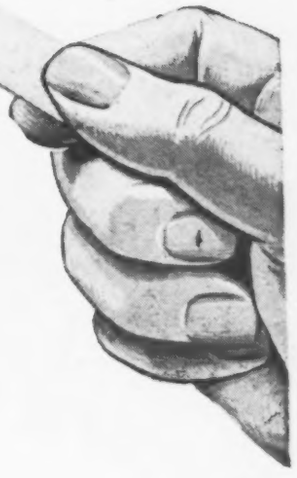

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upkeep expenses. The following check sheet is prepared as a reminder for the inspector whose duty it is to uncover needed repairs to buildings and miscellaneous structures in connection with the maintenance program. The list suggests items to watch and investigate under the various headings, and in some instances it gives hints or makes suggestions as to possible remedies.

Foundations: Settling, waterproofing, cracking, pointing up, drainage, adequacy.

Floors: Worn surfaces, sub-floor rotting, oil leakage, water leakage, cracks, holes, suitability of surface.

Sidewalls: Cracks, insulation, painting, pointing up, waterproofing.

Partitions: Painting, anchorage, glazing, insulation, refinishing, plastering.

Ceilings: Cracks, painting, insulation, oil spattering, cleaning.

Roofs: Resurfacing, replacing, pointing up, deck rot, insulation, drainage.

Flashing: Loose flashing and counterflashing, painting, pointing up, rust, replacing, furring strips, raglets.

Conductors: Painting, replacing, anchorage, general condition, freedom from obstruction, screens.

Parapet walls: Cracks, waterproofing, pointing up.

Coping: Loose stones or tile, pointing up, replacing, anchorage.

Pent house: Condition of structure, wall cracks, pointing up, painting, window and door fittings, glazing, caulking, hinges and locks; condition of stairs, ladders, railings, roof.

Skylight: Corrosion or rot, glazing, reputtying, flashing, pointing up.

Ventilators: Painting, flashing, rust.

Fire escapes: Rust, weakened members, firm anchorage, painting, adequacy.

Canopies: Rust, painting, roof condition, anchorage.

Platforms: Safety features, floors, cracks, replacements, painting, steps, railing.

Fences: Anchorage, gates, locks, hinges, stops, painting, rust, flood lighting.

Water tanks: Rust, foundations, leaks, anchorage, painting, inside surfaces.

Hydrants: Rust, painting, protection against damage, condition of valves, open and close indicators.

Trestles: Rot, replacements, painting, bumpers, loose spikes, switches.

Overhead pipe lines: Foundations, supports, insulators, painting, replacements, valves. *(R-292)*

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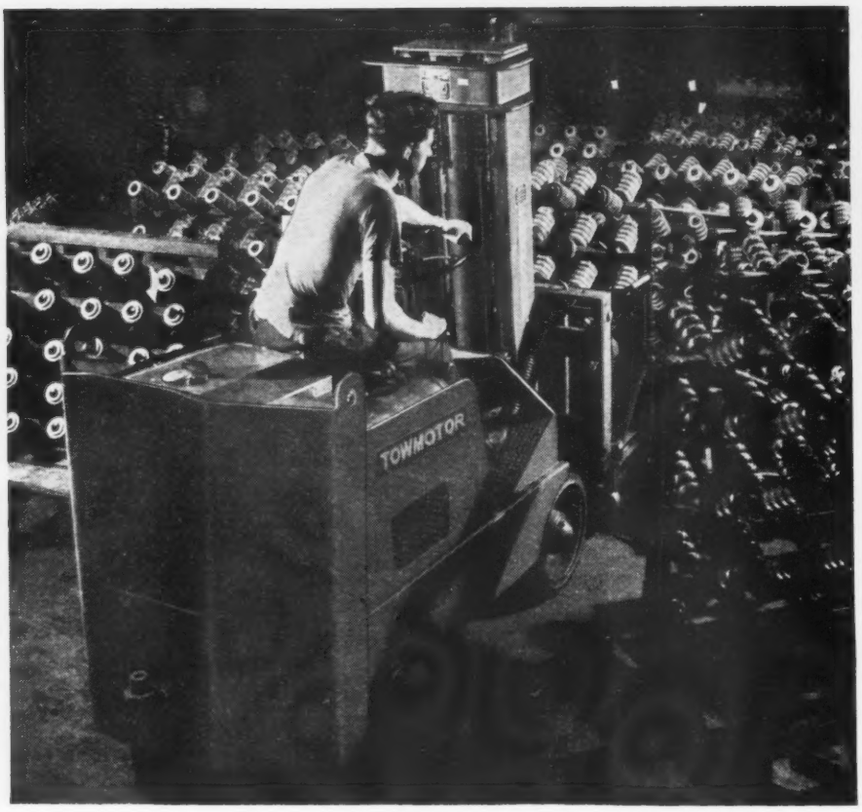

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Window-Shade Cloth Finished by Five Methods

Technical Editor:

Our plant is manufacturing window-shade cloth. Can you advise us regarding the methods currently used for finishing this type of fabric? (9119)

There are five methods commonly employed in the United States for finishing window-shade fabrics. These methods may be described briefly as follows:

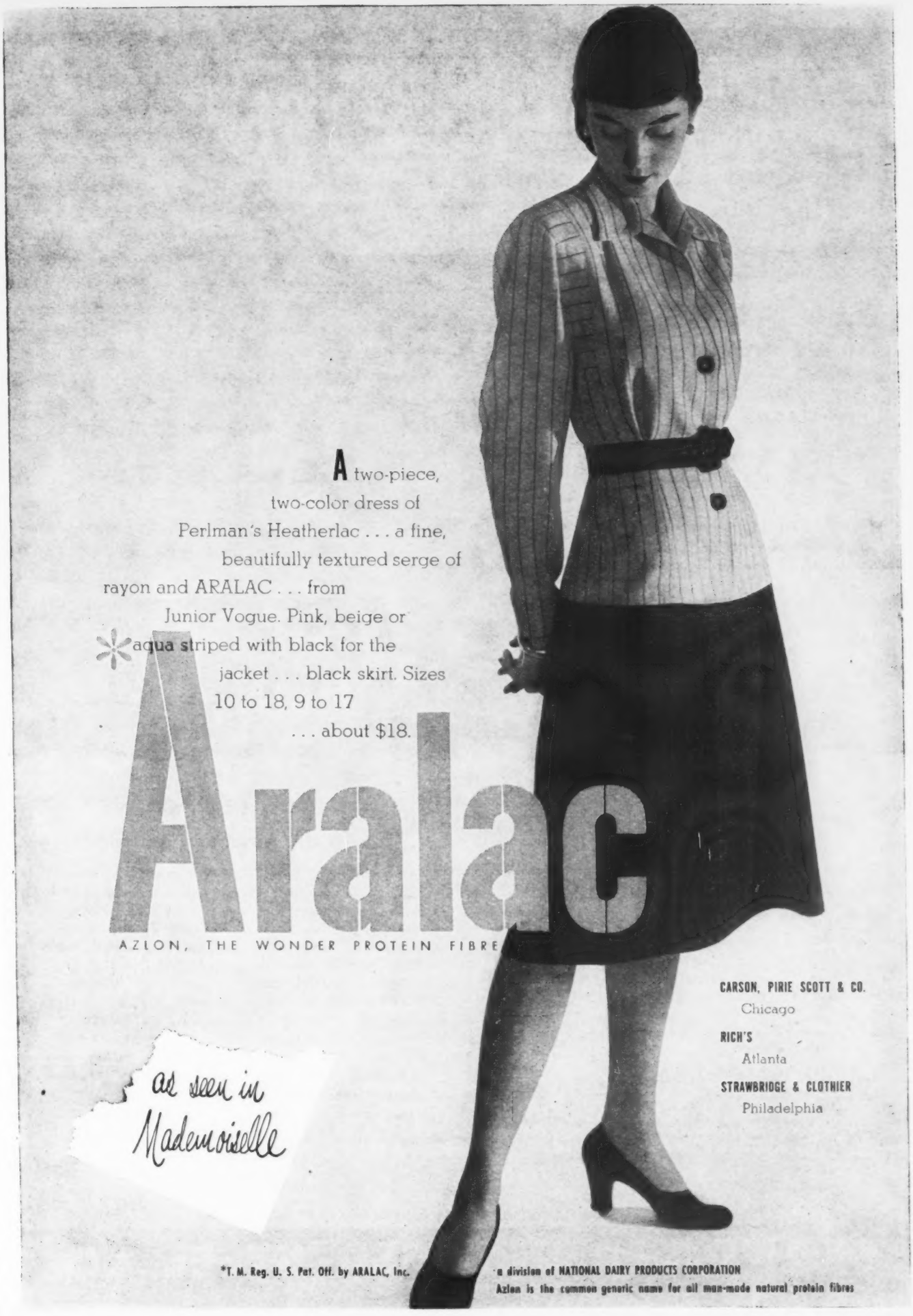
1. Hand Made: The cloth is stretched on frames and painted by hand with an oil paint.

2. Machine Oil. In this method, the cloth is painted with an oil paint on a coating-head machine.

3. Pyroxylin-Coated Washables: The cloth is coated on the same type of machine as mentioned under method No. 2; but in this case, nitrocellulose is used as the coating material. The cloth may be coated on one or both sides and may either be dyed and coated with a clear pyroxylin or be left undyed and the desired colored pigments incorporated in the coating.

4. Holland Type: In the production of this type of window-shade material, the cloth is heavily sized on a backfill or similar type of machine. Sometimes it is given a single run, and sometimes it is filled on both sides. The backfill ingredients usually consist of starch and a clay or talc filler, and often pigments or dyestuffs resistant to light are included. After the cloth has been filled so as to leave no pinholes, it is run through a five- or seven-bowl calendar with a heavy set. This treatment results in a somewhat glazed surface.

5. Water Color: This method results in a rather common type of window-shade cloth. The goods are given a heavy starching, either with or without filling materials such as clay or talc, in a finishing mix containing soluble dyestuffs such as the direct colors. After starching, the goods receive only a light calendering so that the finish is somewhat rough and does not present the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MANUFACTURERS' BULLETINS

***READERS** may secure copies of literature reviewed on these pages by using the post cards below which require no postage. Fill out COMPLETELY one coupon for each piece wanted.*

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1. Model MJ Supreme knitting machine is described and illustrated in a 16-page pamphlet published by Supreme Knitting Machine Co., Inc. The machine range of 64 feeds, micromatic stitch control, roller-bearing supported interwinding take-up, adjustable silent-chain drive, and interlocking camming system are features of the machine which are described.

2. Bus Duct is described and diagrams and analyses of three installations are covered in a 40-page booklet published by Westinghouse Electric Corp. Drawings and photographs illustrate the installation features. The engineering data section of the booklet includes standard ratings of main breakers, temperature conversion tables, formulas for determining amperes, horsepower, kilowatts and kilovolt amperes, load factor curves, and other information designed to aid in correctly selecting power takeoff equipment.

3. Floor covering materials easily applied by any handy man, which harden into an abrasive- and acid-resistant, flint-like surface in 24 hours are described in a booklet entitled "It's Easy to Repair Wet, Rutted Floors," published by Stonhard Co.

4. Ten commercially important ketones are discussed in a booklet published by Carbide & Carbon Chemicals Corp., and physical and chemical properties are given along with specifications and information regarding principal uses of these products.

5. Stainless-steel welding electrodes and complete information on the selection and application of stainless electrodes for welding stainless steel are given in an 8-page booklet published by Jessop Steel Co.

6. Resilient flexible couplings are described, and a table of sizes required to fit various installations is given in Bulletin SL-1001, published by Crocker-Wheeler Division, Joshua Hendy Iron Works.

7. "How to Use DC-996," a silicone varnish which cures at ordinary baking temperatures and protects electrical equipment operating continuously at temperatures up to 350 deg. F., and subject to excessive moisture, is the subject of a pamphlet published by Dow Corning Corp.

8. "Suntac" oils and their on-the-job performance are described in an illustrated folder published by Sun Oil Co.

9. Condensate oil removal filters of the preformed floc type and details of the operation of rake agitator and rotary surface washer units are described in a bulletin issued by The Permutit Co.

10. Floor treatment for concrete and wood floors, including "Integral" hardeners, chemical hardeners, concrete dye, surface coatings for rubber and mastic floors, and wood preservatives, are described and illustrated in a specification book published by Truscon Laboratories, Inc.

11. Nine features desirable in heavy-duty industrial floors and nine benefits in trucking performance directly derived from these features, including faster movement of goods, enhanced employee safety, and lower handling cost, are described in a bulletin published by Walter Maguire Co., Inc. Test data are cited to demonstrate how these benefits are realized through the use of 100% emery aggregate in the construction of heavy-duty flooring.

12. Bucket elevator of an internally loaded, loop type for handling small parts is described in folder No. 1983 published by Link-Belt Co. Low loading height, small required floor space, inclosed construction, and flexibility of loading and unloading arrangement are featured in the folder.

13. Industrial chemicals and explosives, and more than 50 industries which utilize these products, are listed in a booklet published by Hercules Powder Co. For easy reference, the products are indexed according to various industries in which they are used and then according to chemical families.

14. A "Plastics Primer," consisting of 16 pages of facts about plastics, their properties, fabrication, and uses, has been published by the Dow Chemical Co. Beginning with the question, "What are plastics?" the booklet covers the subject of manufacture, characteristics, classifications, and molding of plastics. Styron, Ethocel, and Saran and their many uses and applications are featured and described.

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instruments are required, are described and pictured in Catalog Section 31-E published by Fischer & Porter Co.

16. Stationary tachometers designed for heavy duty, and in sizes with 8-in., 10-in., and 20-in. dials, are described in a bulletin published by Herman H. Sticht Co. Inc. These tachometers, of the centrifugal type, are not affected by temperature variations, are not magnetic, and operate in either direction of rotation.

17. Direct and indirect air heaters designed for use with oil or gas fuel are described in a 16-page bulletin published by the J. O. Ross Engineering Corp. The bulletin is fully illustrated and includes charts, diagrams, and tables covering operating principles and construction, applications of various types, nominal heat ratings, and capacities.

18. An electronic interval timer, known as Model 1029, described as having a range of zero to 2 minutes in one-second steps, with better than 5% accuracy, and controlling loads to 500 watts at 125 volts a.c., is covered in a one-page leaflet published by Electronic Controls, Inc.

19. Interlock machines, in diameters from 12 to 30 in. and with from 8 to 30 speeds, are described in leaflet No. 360 published by Mellor Bromley & Co.

20. Hank-dyeing machines designed for dyeing all classes of wool, worsted, mixture yarns, linen and slubbing in hank form are described and illustrated in leaflet No. 359 published by Samuel Pegg & Sons. Built in a range of sizes from 10-lb. to 1200-lb. capacity per bag, the machine as described features single-direction, intermittent flow of liquor, increased capacity, heavy-gage stainless-steel construction, and automatic control.

21. Simplified air conditioning by means of humidification and evaporative cooling is described in a 4-page illustrated folder issued by R. I. Humidifier & Ventilating Co. The system utilizes ducts for circulation and recirculation of air, with atomizer head mounted at all duct outlets for addition of required moisture; automatic temperature control operates louvers connecting to outside air.

22. Stub screw machine drill, in sizes from No. 1 to No. 60 wire gage, 1/16 to 2 in., and A to Z are cataloged in a 6-page leaflet published by Chicago-Latrobe Twist Drill Works.

23. Pneumatic squeezers, a line of air-controlled ringers and squeezers designated "Ring-Master," are presented in Bulletin 945, published by Rodney Hunt Machine Co. Featuring positive and uniform pressure control, simplicity of operation, versatility, and a range of sizes, the line includes open-work extractors, pneumatic squeezers, etc.

24. A line of centrifugal pumps, ranging in capacity from 40 to 900 gals. per min. and heads up to 200 ft. or higher, is described in Bulletin No. 200 published by Carver Pump Co. Included in the bulletin are details of hydraulic design for increasing pump efficiency.

25. Controlling water level in Combustion Engineering VU boilers and a case study of an actual installation are described in Bulletin No. 455 published by Northern Equipment Co.

26. An abrazer for accurately determining abrasion resistance of textiles, ranging from delicate fabrics to heavy upholstery, is described in an illustrated bulletin published by Taber Instrument Corp. Use of the machine to eliminate time-consuming tests is explained.

27. Safety and relief valves of 20 basic designs are described and illustrated in Bulletin No. 40 released by Farris Engineering Co. Valve designs described include high-pressure types, liquid-relief types, diaphragm-relief types, full-venturi and semi-venturi types, safety, relief, safety-relief, and pop valves.

28. "Continuous Blowoff for Boiler Plants" is the title of a reprinted article published by Cochrane Corp. The article includes a discussion of concentration of solids in boiler water, the calculation of solid-saving estimates, and the added value of flash steam recovery over simple heat exchangers.

29. Tru-Shade dye becks, featuring stainless steel construction, three-speed motor drive, roller chain drive to reel, ball bearing throughout, and a range of sizes, are described in Bulletin No. 546 published by Rodney Hunt Machine Co.

30. A dictionary of insurance terms, designed to assist the average man to a better understanding of the meaning of insurance terms, has been published by Employers Mutual Liability Insurance Co. of Wisconsin. Over 225 definitions of words commonly found in fire, property, and liability insurance are given in language easy to understand. Many specific examples are given further to amplify their meaning.

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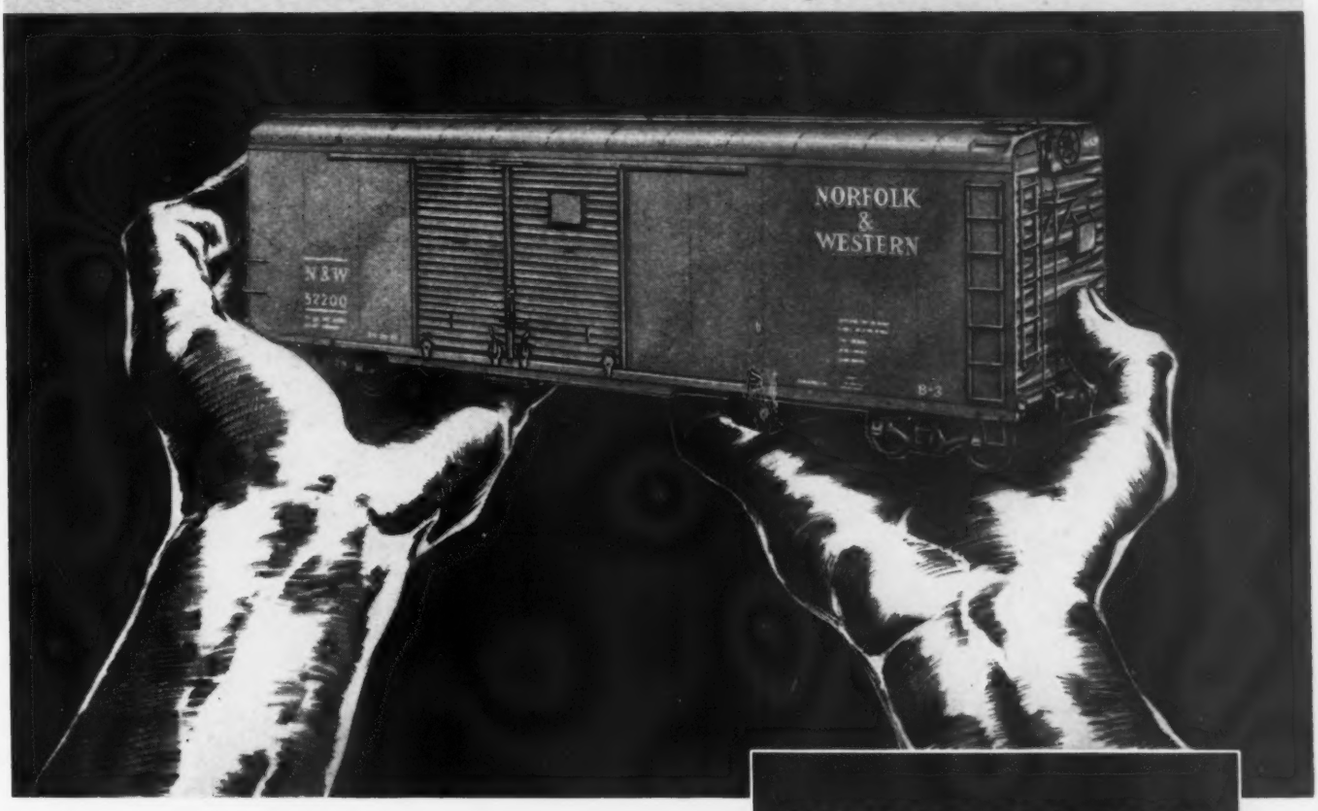

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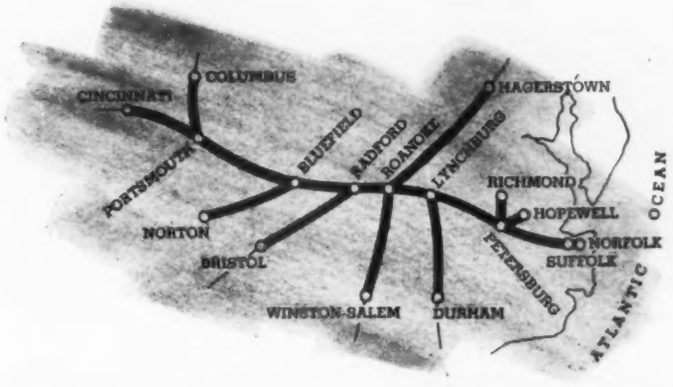
Today they may be on lonely sidings; tomorrow they will be parked beside the humming assembly lines of America's greatest industries.

"Peanuts" may be the manifest today; tomorrow they will be speeding across the country loaded with rare products from distant lands. But whatever their load, they rush on and on and on. Over mountains, across canyons, through snowdrifts, steaming swamps, scorching deserts or down long valleys beside quiet streams.

But whether their job is tough or pleasant, dull or romantic, they do it well . . . because they are designed for it, built for it, and maintained for it.

The Norfolk and Western has thousands of modern freight cars. Some of them are yours — built to do your job. Where do you want them?

N. & W. representatives are located in most principal cities — call or write them for traffic suggestions.



Norfolk and Western RAILWAY

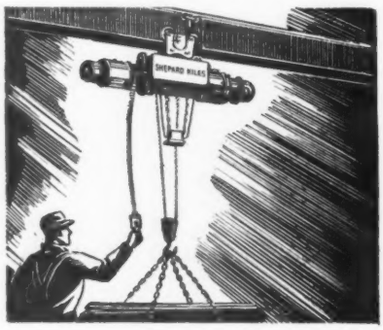
PRECISION TRANSPORTATION

• Picking up a load and placing it on the exact right spot is only as efficient as the crane that lifts and carries and lowers its cargo.

Balanced drive gears with automatic oil bath lubrication—permanent alignment—anti-friction bearings—give Shepard Niles cranes precision control operation and more dependability under constant load handling. Shepard Niles cranes are designed and built for tough, long service with a thorough knowledge of the performance expected of them.

* * *

Our staff of engineers are ready today to help you to plan a better, more economical handling system. Write them.



For smooth, constant, dependable lifting and handling, select a Shepard Niles hoist. The completeness of the Shepard Niles line of electric hoists permits the selection of the most efficient lifting and load-moving equipment for any requirement.

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smooth, lustrous appearance obtained in the Holland-type finish.

The cloth construction has a great deal to do with the type of finish applied, since fabrics going into this line of work range from rather low-end goods up to cloths of relatively high construction made of fine yarns. The amount of filling or coating depends to a considerable extent upon the base construction, since coarser yarns and weaves require more filling than do the higher counts and finer yarns.

Acrylic-Type Resins Used in Finishing Ribbons

Technical Editor:

We are manufacturers of Petersham ribbons and are much interested in obtaining technical information regarding materials used for sizing this type of fabric. Are there any new synthetic resins on the market which could be used to make the stiffening washproof? (9120)

There are several resins available on the market which can be applied to fabrics to give them stiffness and body and which are, at the same time, relatively resistant to repeated washings. These resins are the acrylic types, polyvinal acetate and ethyl cellulose.

The resins are available in the conventional type of oil-in-water emulsions; they are deposited on the fabric by the evaporation of the water medium. They deposit clear and relatively colorless films, require no curing nor aftertreatment, and are compatible with softening agents and other conventional finishing materials. They may be diluted with water to any desired concentration. In addition to their resistance to laundering, these resins are also quite resistant to the standard dry-cleaning fluids.

While their cost is somewhat higher than the usual starch-and-gelatin sizings, they are still quite reasonable because of their fastness properties.

Woolen-Yarn Twist Depends on Type of Wool

Technical Editor:

I am at present interested in evolving a formula for arriving at the proportional breaking strength of any count of yarn spun from the same kind of stock. I am not certain that woolen yarn is twisted to a point of maximum strength, but I should appreciate your advising me regarding the accepted procedure in woolen mills for figuring yarn twist. (9118)

The twist given woolen yarn depends, of course, upon the quality of wool, the fineness of the yarn, and the purpose for which the yarn is intended. As you certainly know, there is quite a difference between wool grown in South

WHEN

YOUR SINGEING FRAME IS A "DRAG" ON PRODUCTION

SHADING CAN BE TRACED BACK TO THE SINGE

THERMOPLASTICS (LIKE ACETATE) "BEAD" BEFORE CARBONIZING

THEN

speed up and clean up your singe with the new KEMP system

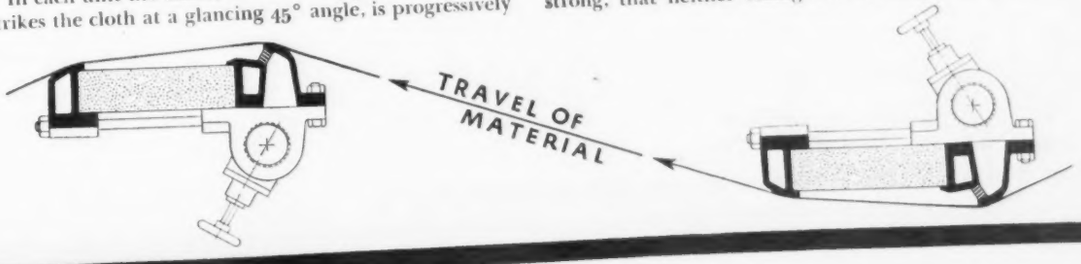
PRODUCTION speed-ups from 50% to 300% are normal results of switching to KEMP's new "radiant-flame compression" singeing. And as extra benefits, many users have reported (1) such consistent and uniform nap removal that shading has become an obsolete dye-room worry, (2) such speed that "beading" (on acetates, nylons, vinyons and the like) simply does not have time to occur, and (3) such efficiency of combustion that fuel costs shrink (depending on your former system) 25% to 50%.

How come? The new KEMP "radiant-flame-compression" burner is designed to be *more* than just a row of flames. The angle of singeing blast, time of contact, and degree of flame confinement are all controlled (see below). And, because the fuel supply is "pressure-carbureted" by the long-famous KEMP carburetor, you can go the limit in getting the most out of each burner.

"RADIANT-FLAME-COMPRESSION" SINGES BOTH SIDES IN ONE PASS

Two "radiant-flame compression" units can completely singe *in one pass* at rates as high as 400 yards per minute.

In each unit the flame, under strong positive pressure, strikes the cloth at a glancing 45° angle, is progressively squeezed between fabric and incandescent refractory surface, and actually carbonizes the nap without burning. Action is so rapid and the flame-sweeping effect so strong, that neither fusing nor burning can occur.



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PRECISION CARBURETION + ADAPTED COMBUSTION
FOR INDUSTRY'S HEAT-USING PROCESSES
ATMOSPHERE GENERATION & ADSORPTIVE DRYER SYSTEMS
FOR PROCESS CONTROL AND PROTECTION

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Send me your literature, and the names of major mills which use your system ☐

Send a field engineer to see us ☐

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POSITION_____

COMPANY_____

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Buy it now . . . take time to pay this low-cost way

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12-month Terms	$ 32.50
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Thus you can take immediate steps to improve both your competitive position and your sales opportunities . . . by equipping now for more and better production at lower cost. Even equipment engineered and built to your special order can be financed on uniformly easy terms under this plan.

A booklet giving more information about the broad scope, simple operation and low cost of using this plan is yours for the asking. Just write to the nearest Commercial Credit Company office listed below and ask for Booklet HI-2.

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America and wool grown in South Africa, Australian, etc. Furthermore, a distinction has to be drawn between warp and filling yarns.

Generally speaking, the twist per inch for carded yarn is found by multiplying the square root of the yarn number by 2.58 for warp yarn and by 1.29 for filling yarn.

Mechanical Packaging Sought by Yarn Mill

Technical Editor:

Will you please inform us by what means cotton spinners in America are packing pin cops in cases before forwarding them? Here in Belgium, this work is done manually by boys; but we suppose that spinners in your country have special machines for mechanically packing cops. (9122)

Since there is a slight difference in textile terminology in Belgium and the United States, the exact yarn container you mean by "pin cops" is not completely clear. In this country, yarn holders are spoken of as bobbins, quills, tubes, cones, spools, etc.; but your exact meaning makes very little difference so far as influencing the answer to your question.

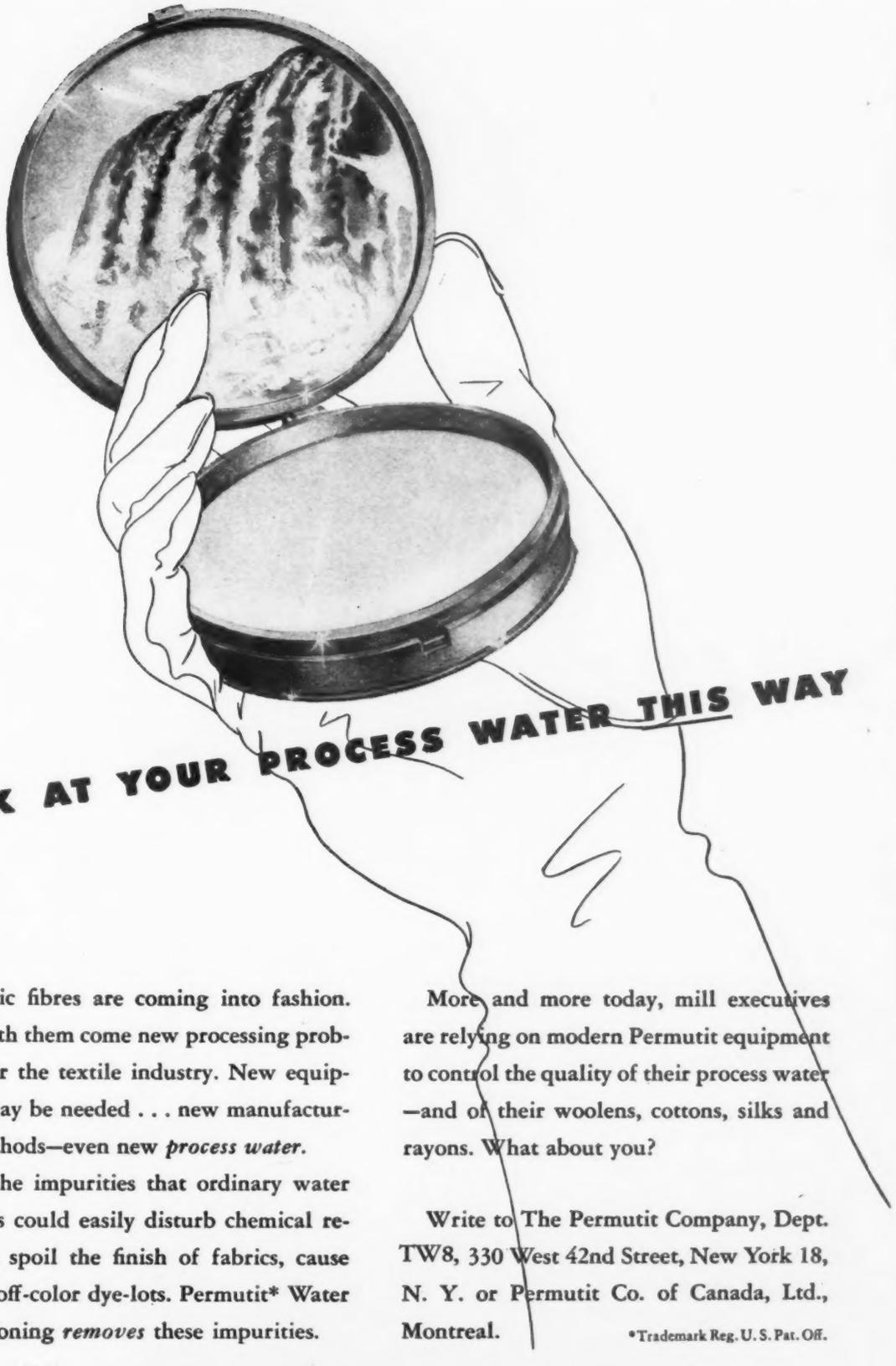
Because of the degree of integration of the textile processes here, yarn is usually shipped on tubes and cones. The method used for packing tubes and cones seems to be practically the same as the method you use. It is done by hand, and the cones or tubes of yarn usually are wrapped individually with paper before they are placed in the shipping container. There is no mechanical means for wrapping these packages or packing these cases currently being used by mills in this country. The only extent to which this phase of work has been mechanized is the application of belt conveyors for moving the wrapped packages of yarn from the wrapping table to the packing table and special apparatus placing the band-steel wrapping on the outside of the case.

Inside plants, yarn is transported on bobbins and quills, and the method of packing these is also by hand. However, when bobbins or quills are to be shipped or transported from one point to another, they are not wrapped or placed in any orderly manner in the shipping or transporting box.

Excessive Processing May Cause Curling

Technical Editor:

In our waste-opening room, we deliver cotton from three bale breakers to a gyrator which serves as a conveyor and distributor



LOOK AT YOUR PROCESS WATER THIS WAY

Synthetic fibres are coming into fashion. And with them come new processing problems for the textile industry. New equipment may be needed . . . new manufacturing methods—even new *process water.*

For the impurities that ordinary water contains could easily disturb chemical reactions, spoil the finish of fabrics, cause spotty, off-color dye-lots. Permutit* Water Conditioning *removes* these impurities.

More and more today, mill executives are relying on modern Permutit equipment to control the quality of their process water —and of their woolens, cottons, silks and rayons. What about you?

Write to The Permutit Company, Dept. TW8, 330 West 42nd Street, New York 18, N. Y. or Permutit Co. of Canada, Ltd., Montreal.

*Trademark Reg. U. S. Pat. Off.

PERMUTIT

WATER CONDITIONING HEADQUARTERS

I'M LEAVIN'! WHEN I WANTA DO SOME FANCY ICE SKATING ER BALL-ROOM DANCIN', I'LL DO IT IN TH' PROPER PLACE--NOT ON TH' MILL FLOORS!
TUT--TUT-- GO ON, PEDDLE YOUR PAPERS!
HE'S TALKIN' LOUD-- BUT HE'LL BE BACK WHEN HE FINDS OUT THE BOSS HAS ORDERED SOL-SPEEDI-DRI FOR THEM ICE-SLICK FLOORS!
LOUD BUT NOT LONG
J. R. WILLIAMS
T. M. REG. U. S. PAT. OFF.
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SOL-SPEEDI-DRI MAKES FLOORS SAFE FOR WALKING

SPREAD SOL-SPEEDI-DRI AROUND, and you cover dangerous, oil-glazed surfaces with a Magic Carpet . . . no falling, no slipping with SOL-SPEEDI-DRI underfoot. Sweep it up with an ordinary stiff broom . . . and floors are left clean and safe. SOL-SPEEDI-DRI in time will remove even the oldest oil- and grease-stains!

It's economy-wise to use SOL-SPEEDI-DRI, too. No trained personnel . . . no costly machines . . . are necessary to apply it. One man can do all the work required . . . releasing man-power for more productive work. SOL-SPEEDI-DRI works well on all types of floors . . . cement, wood, or composition . . . without interrupting shop-routine or production. It works . . . while *you* work in safety!

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OIL AND GREASE ABSORBENT
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UL

for two blending feeders. From the bale breakers, the stock is dropped from an overhead condenser into a hopper, where it is taken by the inclined section of the gyrator and conveyed to the overhead horizontal section of the gyrator. The horizontal gyrator conveys the stock over traps above the feeders. The feeders are timed with the back hoppers of the pickers in the picker room, and frequently the feeders in the opening room become filled with stock. When this condition occurs, the excess stock from the breakers is returned to the gyrator feeder.

Recently, an excess of neps in our card sliver was traced to curled cotton at the gyrator. Almost everybody concerned with opening has a different opinion as to the cause of and remedy for this corded cotton, and we are seriously considering discarding the gyrator in favor of a lattice conveyor. Can you advise us on this question? The curling seems to be confined to the gyrator and the gyrator feeder. (9123)

Curling in this instance very likely is caused by subjecting the stock to excessive action of the gyrator. Waste, particularly card strips, does not have as much bloom as raw cotton after each has been subjected to the bale-breaking process. Consequently, waste shows a greater tendency than raw cotton to form in small, stringy mats of fiber.

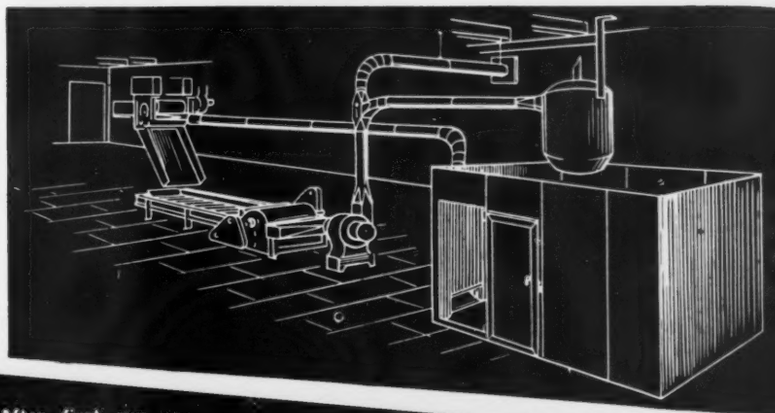
The picking-and-advancing action of the gyrator causes a considerable amount of lateral turning of clusters of fiber, and the lack of bloom in the waste stock permits curling and twisting to take place in the strings of stock.

However, the fact that your trouble with curled stock is of recent occurrence indicates that the use of the gyrator on your particular blend is not disadvantageous. Aside from the ever-present possibility of a difference in the grade or previous history of stock being the cause of the trouble, it seems likely that a slight difference in processing conditions could also cause the curling that is troubling you.

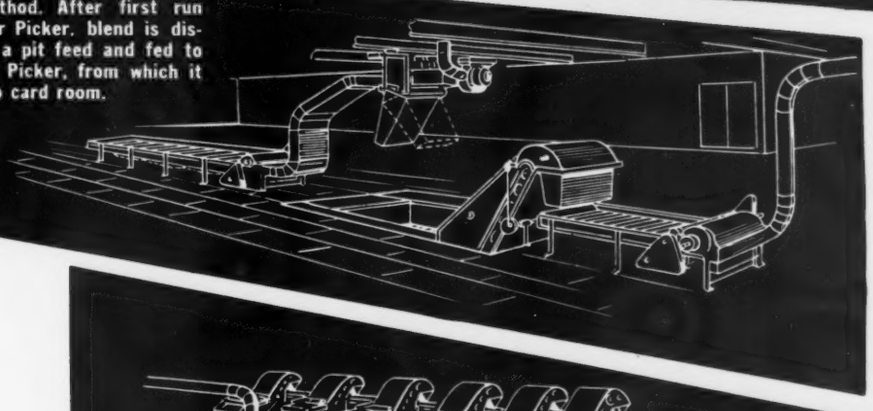
It would be well to investigate the recent frequency of picker stoppage. If the pickers have been using less stock than usual, more stock has been completing the circuit of feeder to gyrator and back to feeder. Such a condition, of course, would means that more stock has been subjected to two circuits of the gyrator action, thus doubling the chance for curling because of the additional action on the fiber.

If this condition exists, the bale breakers should also be timed to start and stop with the gyrator and the picker hoppers. By this arrangement, the entire series of opening and picking hoppers will receive and discharge stock simultaneously, thus eliminating the return of stock to the feeder by the gyrator.

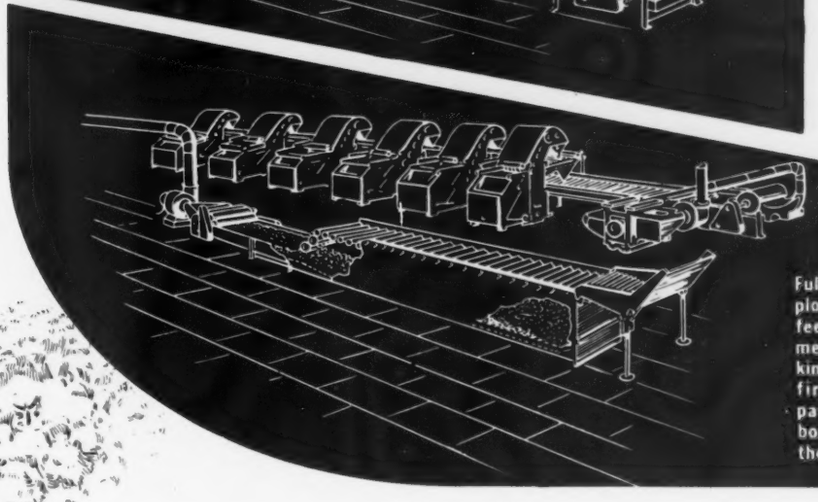
THERE'S A BLENDING SYSTEM TO MEET YOUR INDIVIDUAL PRODUCTION NEEDS...



Simple Method. One Proctor Super Picker. First blending is conveyed to bin, from which it is picked up and distributed over feed table of Super Picker, where it receives secondary blend and then conveyed to card room.



Cleveland Method. After first run through Super Picker, blend is distributed over a pit feed and fed to second Super Picker, from which it is conveyed to card room.



Fully Automatic System. Employs a number of automatic feeds with calibrated scale mechanisms, each laying one kind of stock on feed table of first Super Picker. Blend passes through re-blending box to wide Super Picker and then to card room.

Proctor textile engineers have developed many highly efficient blending systems for the continuous laying of blends or mixes of wool, cotton, rayon, asbestos, jute and other fibrous materials, preparatory to carding and spinning into yarns, or to garnetting into batt form. The continuous blending systems, illustrated above, are a development of the work done by the Proctor Super Picker and are based on the high productive capacity of this machine. This picker has a rated output of 4,000 to 6,000 pounds per hour. As can be readily observed, these blending systems can be semi or fully automatic, depending upon individual plant production requirements. The systems are entirely flexible and can be arranged to meet individual plant layout. Plants already operating similar systems report amazing production figures. If blending is a part of your plant operation—you owe it to yourself to investigate the details of Proctor continuous blending systems. Let one of our sales engineers discuss your problem and make recommendations. Write today!

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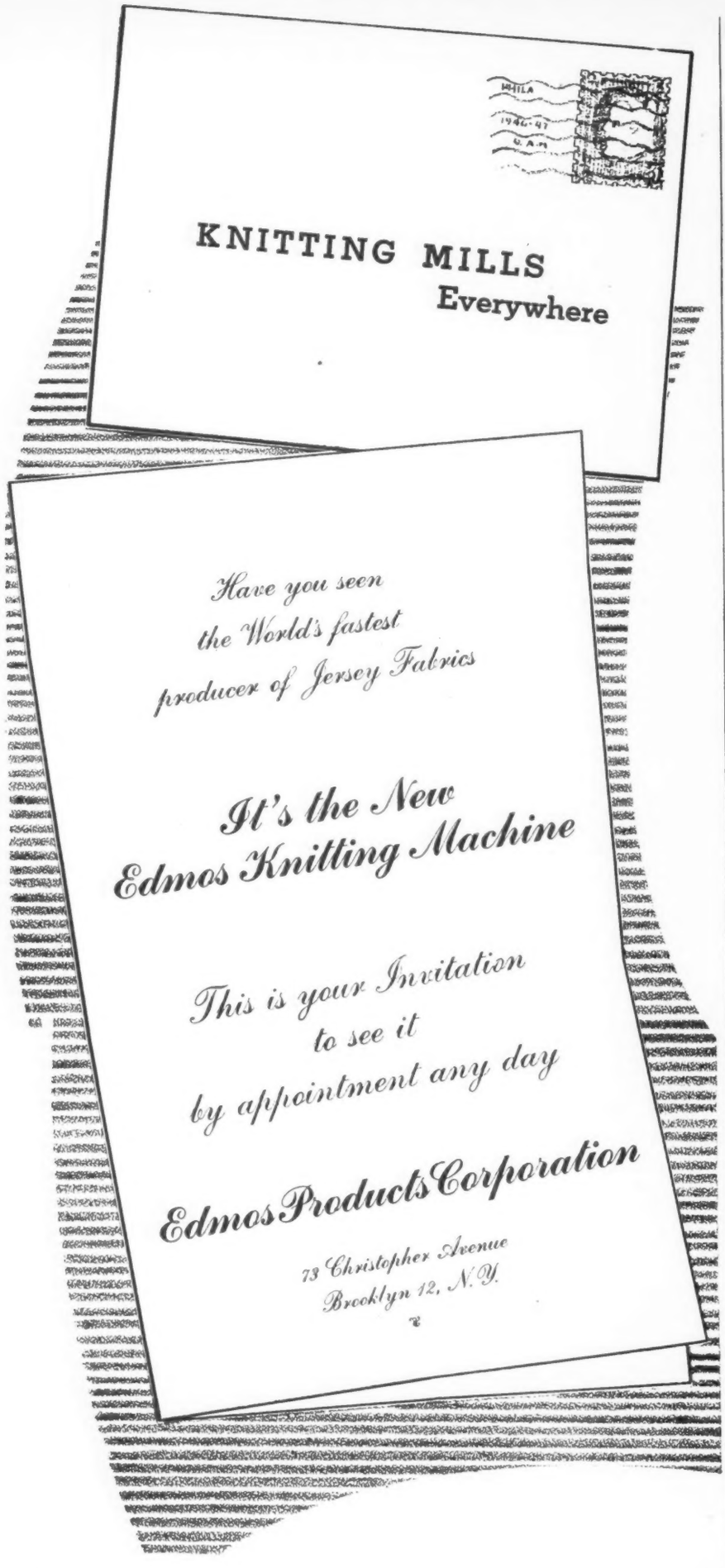


One Textile Industry

(*Continued from page 93*)

Suitable swelling agents are sodium phenate and zinc thiocyanate. The goods are padded at high temperatures and then taken to the jigs for full development and final shade matching."

NYLON DYEING. Mr. Stevenson also discussed nylon problems, such as proper presetting and the effect of wet and dry heat [T.W., Jan., 1946]. "The dyeing of nylon is still in its infancy," he said. "The most widely used dyestuffs at the moment are the dispersed acetate colors [T.W., Jan., 1945, and Jan. 1946].

"An interesting development in the dyeing of nylon is reported from England. This covers the use of direct colors from an acidified dyebath.

"Direct dyes which remain in solution in an acidified dyebath, as most do, can be dyed on nylon at rates comparable to those of the same dyes when dyed on viscose from a neutral bath.

"It is claimed that direct dyes do not cause appreciable degradation of nylon when the dyeings are exposed. Vat dyes, on the other hand, cause extensive degradation of the nylon, which takes place more rapidly than is the case with cellulosic fibers and is accompanied by similarly rapid fading of the dyestuff itself."

The vat dyeing of spun rayons is being revolutionized, according to Mr. Stevenson, by the new continuous Dupont and Williams processes [T.W., Jan., 1945 and Apr., 1946].

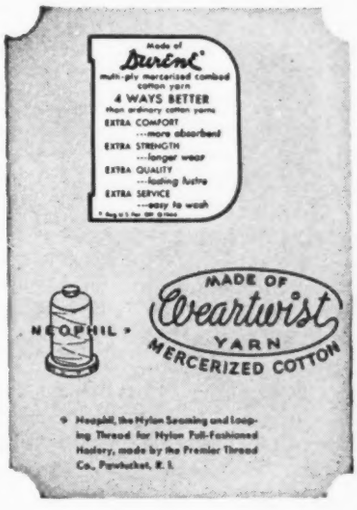
He discussed a new German chemical which has come to his attention as follows:

"A product known as H.O. 1-193, an imine derivative, seems to give promise. It increases the hydrophobic properties of rayon. According to reports, it polymerises at 70° C.; because of low polymerising temperature, it produces no wicking; produces a non-swelling fiber; imparts good wet strength to fiber; gives improved resistance to alkali solubility and to laundering; improves dye affinity and gives better light and wash fastness; gives non-shrinking effect; and imparts resilience and good handle to fiber and fabric."

Aralac, Mr. Stevenson said, is sensitive to alkalis; and much care must be exercised in dyeing and scouring to prevent the fiber from becoming brittle and dusting out of the fabric [T.W., Jan., 1945].

Laundries need a lot of education with respect to textile materials, Mr. Stevenson remarked. They must be taught, for example, not to use chlorine on rayon fabrics. He urged that laundry men be invited to future meetings of the seminar. He also proposed that the

It's Quaint IN THE TRAVELOGUES . . . .



It's quaint, yes . . . watching a native woman patiently weaving by hand. But it's also food for thought. For although the fabric she produces is exotic—it falls far short of perfection. How much better, how much more beautiful and longer-wearing it could be with Aberfoyle Yarns! Aberfoyle Yarns are the result of continuous research and experimentation . . . they incorporate, *always*, the newest technical developments and the latest improvements.

ESTABLISHED 1883
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AMERICA'S OLDEST MERCERIZERS
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ABERFOYLE MANUFACTURING COMPANY
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Representatives in principal textile centers of the world

• Step by step, through the process of converting nature's raw materials into delicate, sheer hosiery, moving air does many important jobs. Conveying materials, mixing chemicals, aerating and agitating liquids . . . all these are speeded by the simple act of blowing air.

Much of this work is done by Roots-Connersville blowers. Not only for hosiery and other textiles, but in many chemical and synthetic processes, R-C units are depended upon to do their share for profitable production.

Even long before we dreamed of these modern materials, R-C blowers were used for:

Manufacturing explosives
Pneumatic tube systems
Coal treating
Priming centrifugal pumps
Water distillation
Vacuum filtration processes
Foundry cupolas
Testing toy balloons

R-C Inert Gas Generators have found wide application in chemical plants and other process industries where fire and explosion hazards must be economically controlled, such as mixers, ovens, dryers, grinders, pulverizers, and similar equipment, as well as processing uses. Ask for Bulletin 100-B-14.

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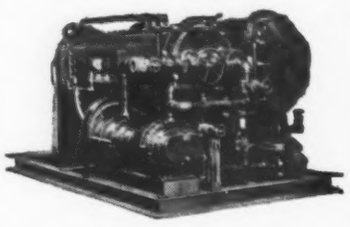


R-C Inert Gas Generators, gas or oil fired, are available in either stationary or portable types. Unit shown has a capacity of 35,000 CFH.

Roots CONNERSVILLE SINCE 1854

ROTARY POSITIVE AND CENTRIFUGAL BLOWERS • EXHAUSTERS • BOOSTERS
LIQUID AND VACUUM PUMPS • METERS • INERT GAS GENERATORS

textile industry build and operate a pilot laundry.

CONTINUOUS BLEACHING. James Harrell, of Ware Sholes Mfg. Co., Ware Shoals, S.C., described a new continuous-bleaching installation in his mill, as follows:

"We recently installed and put into operation a combination rope and open-width bleaching range which has worked out very satisfactorily for the type of work that we intend to run on this system. All of the goods that we bleach on this continuous bleaching range are first gray scoured and piled into bins and allowed to steep from 2 to 4 hr., depending on the construction and weight of the goods. After the goods have been steeped the necessary length of time, they are pulled out of the bin and opened with a conventional scutcher, passed through a caustic saturator, and then plated down into a J-box in rope form and allowed to steep from 1 to 1½ hr., again depending on the weight and construction of the goods. The goods are then pulled out of the J-box, opened up to full width through a scutcher, washed in the open width to remove excessive caustic, then saturated in the open width with peroxide. From there, the goods again are plated down in rope form in a J-box where they are allowed to steep from 1 to 1½ hr., depending again upon the weight and construction of the goods. The goods are then pulled from the J-box and opened again through a scutcher and washed in the open width to remove any chemicals left in them.

"At the present time we are operating this bleaching range at speeds varying from 90 to 150 yd. per min. and getting a very satisfactory bleach.

"Of course, we might add that we have quite a saving in labor. We have found that up to the present time we do not have any savings as far as chemicals are concerned."

VAT DYEING. On vat dyeing, Mr. Harrell had this to say:

"I believe that the development of the Dupont Steam Process [T.W., Jan., 1945] and the Williams Units [T.W., Apr., 1946] is doing more for promoting the use of vat dyestuffs than anything that has been done in the dyeing industry for a number of years.

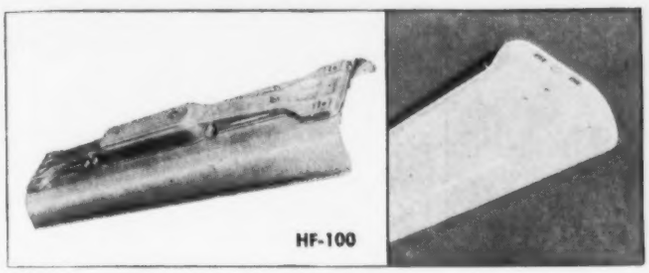
"A more uniform shade and a more level dyeing job can be obtained by the use of either of the above two systems for the application of vat dyes. The goods dyed on either will have the same fastness for washing, crocking, etc., as goods dyed in the same depths of shades by the pad-jig method. It would be expected that the uniformity of shade could be better controlled when using either of the above dyeing proc-

SYLVANIA NEWS

TEXTILE EDITION

AUGUST *Prepared by* SYLVANIA ELECTRIC PRODUCTS INC., Salem, Mass. 1946

MAINTENANCE NO PROBLEM TO TEXTILE PLANTS WITH NEW SYLVANIA FLUORESCENT FIXTURES



Here's one of Sylvania's revolutionary, streamlined industrial fluorescent fixtures. Not one nut or bolt need be removed for complete servicing! Reflector is Miracoat finished—baked enamel, hard, durable. Miracoat will not chip or flake off. Gives gleaming white, uniform surface—easily cleaned with a cloth.

All Parts Quickly Cleaned, Serviced, or Replaced

With textile plants all over the country realizing the tremendous advantages of fluorescent illumination—and installing this better kind of lighting—the need for maintenance simplification is apparent.

Sylvania has, therefore, designed fixtures of extreme simplicity, yet of the sturdiest, most efficient design. All parts are easily removed for cleaning. No need to worry about getting the Miracoat-lined reflectors mixed—they're completely interchangeable!

3 STEPS TO EASY FLUORESCENT FIXTURE MAINTENANCE

TO REMOVE LAMPS—*A quarter twist of the lamp and it's off! When you replace them, Sylvania's special lamp-lock socket feature holds them firmly—secure against vibration.*

TO REMOVE REFLECTOR—*A quarter turn of each Captive Latch and the reflector is in your hands. No tools needed—no nuts or bolts to get lost. The latches stay in the housing.*

WASH AND REPLACE—*All reflectors are interchangeable. After being washed they can easily be replaced—with no thought to mix-ups. For ordinary cleaning they can stay in place and be wiped with a damp cloth.*

FLUORESCENT SERVICE AND MAINTENANCE MANUAL

To help you further—to get maximum lighting efficiency at minimum cost—Sylvania has prepared booklet *Fluorescent Service and Maintenance Manual*. It tells how to estimate replacements, how to get the best out of your installation, many other aids. Price $1.00. Write *Sylvania Electric Products Inc., Salem, Mass.*

SYLVANIA ELECTRIC

MAKERS OF FLUORESCENT LAMPS, FIXTURES, WIRING DEVICES; ELECTRIC LIGHT BULBS; RADIO TUBES; CATHODE RAY TUBES; ELECTRONIC DEVICES

Once or a Hundred Times

. . . you'll get satisfying colors when you come to Globe for yarn dyeing service.

Globe has the skill, experience, equipment and materials to give you what is called for by your production schedules.

You can depend on Globe

for packages, skein, or warp dyeing of cotton, rayon, spun rayon, Aralac, nylon, worsted, novelty, or blend yarns, in any put up that you ask for.

Talk over your Fall and Winter yarn dyeing needs with a Globe representative.

Globe DYE WORKS CO.

1865 1946

FRANKFORD, PHILADELPHIA 24, PA.

esses because in one case no booster at all is used and in the other system only a small volume of liquor is used. Therefore, it is much easier from a chemical and mechanical standpoint to control volume, temperatures, etc., on either the DuPont or Williams process than on the old-type continuous dyeing range.

"The use of a mechanical hydrosulphite feeder for feeding this chemical to the Williams units makes the controlling of this chemical in the unit much easier than when the hydrosulphite is added by hand.

"There is also some work being done on controlling by the use of pH instruments the feeding of caustic and hydrosulphite to vat dye bath. If this method can be successfully worked out, it will go a long way toward reducing the variation in shade caused by the improper feeding of these to the dye bath."

Pigment colors were discussed by Mr. Harrell as follows:

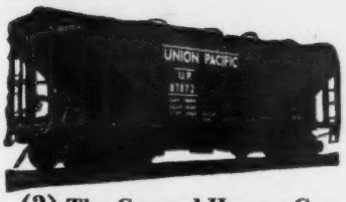
"Pigment colors for printing are not so fast in the heavier shades to crocking as Rapidogen or vat colors; but in the lighter shades they are as fast to crocking, washing, and exposure to sunlight as the best colors obtainable in other types of dyestuffs.

"The use of pigment colors for dyeing certainly has some very definite advantages, such as simplification of the method of application, the possibility of more uniform shades, and probably in some cases a cheaper over-all cost."

AIR DRYING. Air drying was covered by Mr. Harrell, as follows:

"There has been a lot of development work done on air drying for the past several years, and as more and more finishing plants become equipped in their boiler rooms with high-pressure steam this method, as against cylinder drying, becomes more efficient. By this I mean that the size of the machine required for drying a certain fabric at a certain speed is necessarily much smaller if the steam pressure available for heating this dryer is around 225 lb. per square inch, as compared with 100 lb. There has also been a lot of development work done using natural gas or various oil-burning equipment to heat air dryers directly or indirectly [T.W., Oct., 1944]. In fact, a large number of both types of these installations are now in operation in various finishing plants in the country.

"I believe you will find that the steam cost of goods dryed on an air dryer is a little higher than the steam cost of drying this same piece of goods on a set of steam-heated cylinders, but the maintenance cost on the steam-cylinder method is higher. Also, you are not limited to speed on an air dryer. You do not have a lot of steam vapors coming off into the room; whereas on a steam-cylinder dryer you either have this con-

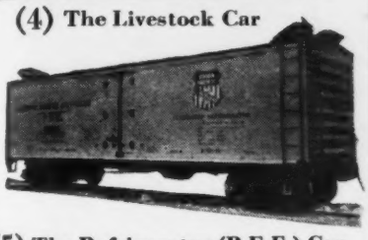


(3) The Covered Hopper Car

(2) The Tank Car

(1) The Hopper Car

(4) The Livestock Car

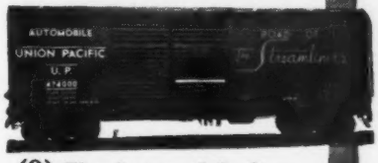


(5) The Refrigerator (P.F.E.) Car

(6) The Box Car

(7) The Gondola

(8) The Flatcar



(9) The Automobile Car

Transportation Tailored to *your* INDUSTRY

To most effectively meet the needs of American Industry, Union Pacific provides a fleet of freight cars specifically designed to transport all types of materials and merchandise.

Sturdily constructed and efficient in mechanical operation are the various types of freight cars pictured on this page. This safe, dependable rolling stock is a vital factor in providing transportation for the commerce of the nation.

Of special interest to the Textile Industry is the box car, Fig. 6, used for the shipment of various textile fabrics.

The trained knowledge and experienced skill of thousands of Union Pacific employees keep shipments rolling on schedule over the time-saving Strategic Middle Route, uniting the East with the West Coast. Experienced traffic specialists, from coast-to-coast, are ready to assist you. Let them help you with your *next* shipment.

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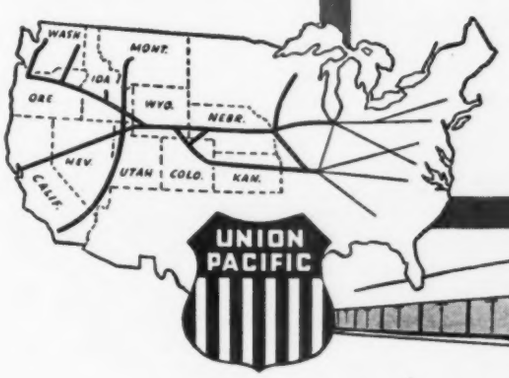

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The Strategic Middle Route

Compare—

These three brushes had been in use for the same length of time. The one in the center was a

JENKINS METL◉KOR BRUSH
with nylon bristle.
(Trademark Reg. Pending)

The others were not. The Jenkins brush can be rewound with bristle and outserve many such wooden core brushes as the others shown. *Let us send you the full facts.*

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dition or have to build a house or hood around the dryer."

Col. Lewis Sanders, of Textile Research Institute, New York, suggested that the new high-temperature liquors, which can be raised to 450°, might be used to replace the high-pressure steam plants for such purposes.

Continuous high-speed scouring is making possible the handling of 35 to 40 pieces of wool fabric per hour, as against the former six to eight pieces, according to Ferdinand S. Kaiser, of Forstmann Woolen Co. Chemical treatments for shrink resistance ruin the handle of the fabric, he said, and most manufacturers would rather have the fabric shrink.

CUTTING AND SEWING. The so-called "fabrication" session was presided over by Meyer Kestenbaum, president of Hart, Schaffner & Marx, Chicago. Speakers included Erwin Feldman, National Association of House Dress Manufacturers, New York, and Frank P. Zurn of Alco Zander Co., Philadelphia. Mr. Zurn, a manufacturer of men's clothing, listed the following gripes against the textile industry: bowed filling, causing twisted garments—particularly bad in plaids; one-way plaids, which cannot be matched horizontal to vertical; doubled rolls, which cannot be set on end on the floor without causing a streak down the center; goods shaded end to end; uneven widths; oil and breaks in decorative stripes; tight selvages which in sponging shrink more than the body; pieces too long to be handled easily; variations in piece lengths; bleeding of rayon linings; variations in lining shades; fabrics too tough for the needle; bowed-filling linings; linings too flimsy to be cut to pattern; abrasion weakness in pocket linings, where coins are carried; and slugs, bars, and mis-weaves in spun-rayon fabrics.

EDUCATION. Problems of textile education took a prominent place in the science-application session, which was presided over by Col. Kennedy. A speeding-up of education was urged by Nathaniel M. Mitchell, president of Barnes Textile Associates, Boston, along the lines of "the new methods of training developed by the armed forces in order to meet wartime emergencies." He urged more specialization to fit the qualifications of the individual student, pointing out that it is silly to try to teach a duck to run fast when he stands such a good chance of excelling in the art of swimming. M. Earl Heard, formerly dean of Philadelphia Textile Institute, took issue with the speaker on this point, declaring that the speeded-up, specialized training should be given by the mill after the student has had his broad fundamental training in the

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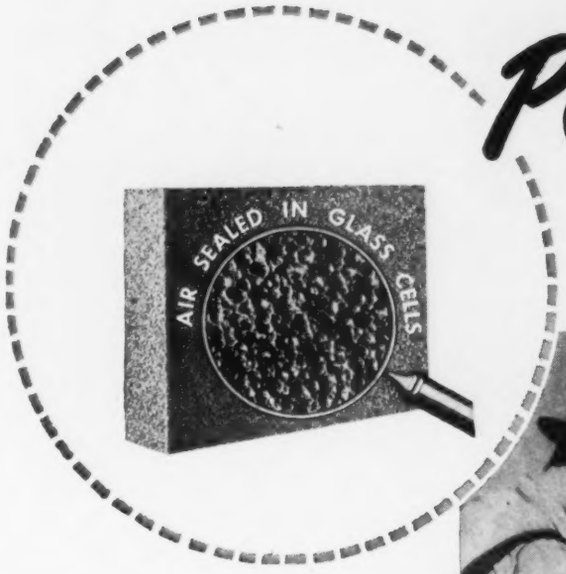

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Rigid and strong, PC Foamglas will not swell, shrink, powder or rot. It repels vermin. It is waterproof, fireproof. It *stays* where insulation is required, will not slip, slide or pack down.

PC Foamglas needs no maintenance, repairs or replacements through the years. It helps to maintain temperature levels, to minimize condensation.

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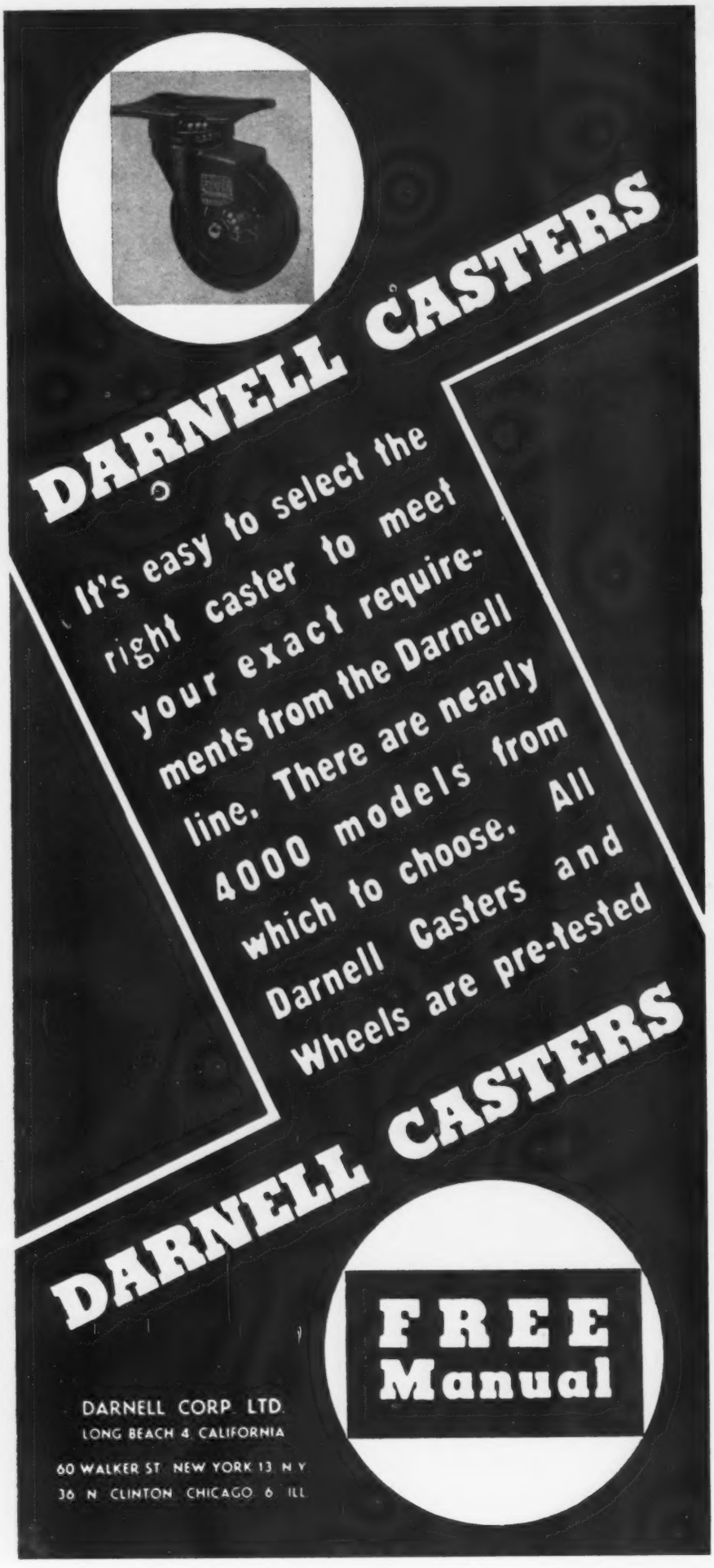
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school. Mr. Mitchell, however, described a successful school he has established in Boston for training GI's for his own organization, in which a 16-week course, 8 hr. a day, has fitted carefully selected students for responsible positions.

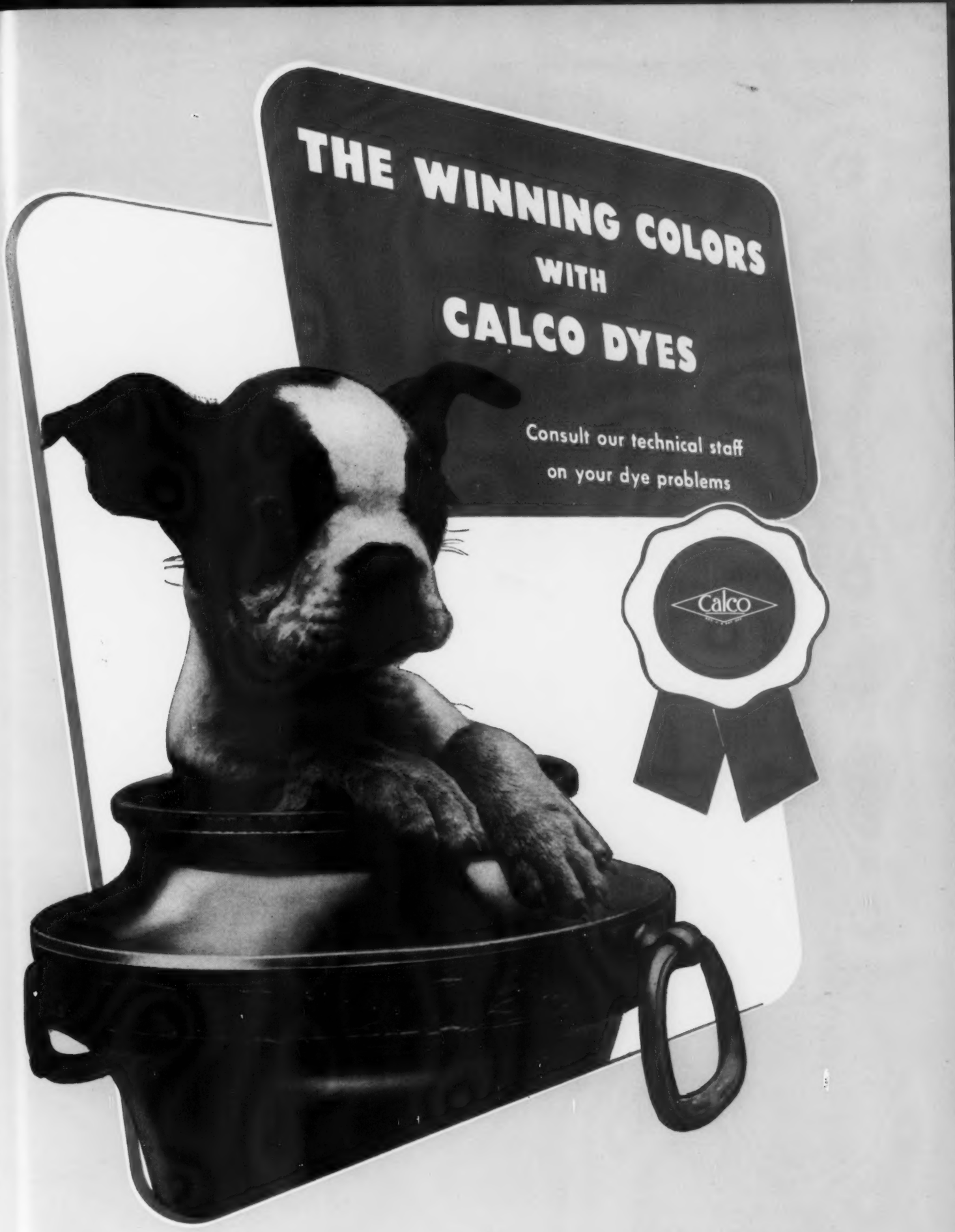
Dr. Milton Harris, of Milton Harris Associates, Washington, in a talk on "Fruits of Research," declared that the fact that three large textile organizations have recently abandoned their research laboratories is an indication that pep talks on research have oversold some impatient manufacturers during a period of cheap money. The modern cooperative attack on research, he said, is more complicated than the science itself; and mill management must be prepared to accept the director of research in the top group of executives. The director, however, must be willing to consider practical problems. He can discourage management by scientific double-talk and the typical attitude of a stuffed-shirt scientist.

LABOR RELATIONS. The highlight of the labor-relations meeting, presided over by Eric A. Nicol of United-Rexall Drug Co., was the frank admission by Clinton S. Golden, official of the Congress of Industrial Organizations, that unions should be held liable for breach of contracts. He pointed out, however, that the reception which mill officials give to the attempts of the CIO and other unions to organize their workers will largely govern the character of all labor relations in the textile field. It is largely up to management, he said, whether union leaders are given an excuse for denouncing the workers' bosses and creating turmoil.

There is more competition between manufacturers than between management and labor, declared Col. Arthur Besse, president of National Association of Wool Manufacturers, New York; and therefore it is to the self-interest of workers in an individual plant to cooperate fully with their management. Increased efficiency and productivity, for which management can afford to pay higher wages, is a matter of local effort. Therefore Col. Besse opposes any attempts to negotiate labor agreements on an industry-wide basis.

Mr. Golden remarked that his personal preference is for industry-wide negotiation. In reply to a question from Mr. Mitchell, he said that there is no over-all CIO policy in opposition to wage incentives, but some individuals feel the practice has been abused and are unalterably opposed to it.

MERCHANDISING. Merchandising was the subject of the final session, presided over by Alex Walker, of Botany Worsted Mills. Speakers included El-



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CORRESPONDENCE INVITED

mer L. Ward, president of Goodall-Sanford, and W. L. Stensgaard, of W. L. Stensgaard & Associates, Chicago. Mr. Ward declared that advertising is a profit-building tool little used by the textile industry. Consistent, intensive advertising in good times and bad pays off particularly during the depression years, he said. By creating mass production, it actually lowers the cost of the product to the consumer. The retailer favors goods which are already partly sold through advertising. Mr. Walker pointed out that some form of vertical integration, either absolute or cooperative, and accompanied by quality control through to the ultimate consumer product, paves the way for the branding of merchandise and the reaping of full benefit from advertising [T.W., July, 1946].

Mr. Ward summed up much of the seminar theme when he quoted the Goodall-Sanford advertising slogan, "Blended for performance."

Special Slide Rule

(*Continued from page 99*)

This proportion permits the development of the four formulas below for determining the fourth factor, given the other three.

1. Finished wt./yd., $F. = \frac{W\,(100 - D)}{(100 - S)}$
2. Woven wt./yd., $W = \frac{F\,(100 - S)}{(100 - D)}$
3. % dead loss, $D = 100 - \frac{F\,(100 - S)}{W}$
4. % shrinkage, $S = 100 = \frac{W\,(100 - D)}{F}$

To determine the finished weight of a fabric where the loom weight is 18 oz., the dead loss 15%, and the shrinkage 10%, substitute these values in 1, above, as follows:

$$\text{(A) } F = \frac{18\,(100 - 15)}{100 - 10} = \frac{18 \times 85}{90} =$$

17 oz. finished weight per yard.

The other three formulas may be used in a similar way to determine the factor desired.

The above formulas require needless computation, since any one of them can be solved easily and quickly by use of a slide rule. An inexpensive one will do. To use a slide rule to solve the above problem (A), proceed as follows: opposite 18 on the left-hand end of the D scale, Fig. 1, set 17 on the left-hand end of the C scale, move the indicator to 9 on the right-hand end of D and read 85 above on the C scale.

The settings of 17 and 18 on the C and D scales represent the finished and woven weights of 17 and 18 oz. respectively in (A). The 85 on the right-hand end of C is the cloth-weight yield

A HALF CENTURY OF EXPERIENCE

Experience is the best teacher and this company has had half a century of it in manufacturing shuttles and bobbins for all fibres.

All wood for Lowell Products is well seasoned and kiln dried. Every operation is performed in our own shop to control quality and speed up deliveries. Any desired finish can be furnished. May we hear from you?

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KEEP ALL YOUR FLOORS *Clean* AND *Slip-Safe*

Left—HILD Tank Type Shower-feed Floor Machine

Right—HILD Plain Handle (Standard) Floor Machine

HILD Floor Machines are designed for use with the easily interchangeable attachments pictured below to condition and maintain floors of all kinds . . . either in the mill or in office areas. Scrubbing with the Tank-Type Machine and the patented HILD Shower-feed Brush gets floors cleaner with less scrub-soap solution . . . cuts soap costs . . . does not splash water on machinery or furniture. Scrub-soap solution is fed from the tank on the handle of the HILD Floor Machine to the back of the Shower-feed Brush . . . then passes through accurately spaced holes penetrating the brush back between each row of bristles.

HILD Floor Machines speedily scrub open areas in lanes between machines . . . yet are easily guided into hard-to-reach spots under and around machinery. They are sturdily built for long, trouble-free service.

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ROBISON *Rayon Yarns*

Filament and Spun Rayon Yarns
dyed and twisted to your specifications.

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in percent which, subtracted from 100, gives the dead loss of 15%. The 90 on the D scale is the cloth-length yield and when subtracted from 100, gives the 10% shrinkage above.

In this application of the slide rule, the answer was known and the problem was worked backward. Take a new example: fabric 17 oz. woven, to be finished 16 oz., estimated dead loss 12%. The procedure to determine the percent of shrinkage is this: Set 16 on C opposite 17 on D, move the indicator to 88 (100-12) on the right end of C; and read on D the shrinkage of 100-93.5, or 6.5%.

Learning to use a slide rule for this work is not difficult and can be accomplished in a short time from any standard slide-rule manual.

ALL POSSIBLE COMBINATIONS. The slide rule is based on the principle that, for any given position of the scales, the relation of any number on the C scale directly above one on the D scale is in the same proportion as any other number on C to the corresponding one on D. It follows that one setting gives all the possible combinations of loom weights and finished weights for given values for dead loss and shrinkage. Thus, the following weights are a few of those which must exist with a dead loss of 15% and a shrinkage of 10%.

Loom wt. in oz.	Finished wt. in oz.
16.93	16.00
18.00	17.00
18.53	17.50
19.06	18.00
19.59	18.50
20.12	19.00
20.65	19.50
21.18	20.00

One of the uses of the principle illustrated above is in the development of new fabrics, based on experience obtained in producing similar cloth. Having manufactured a cloth with loom weight 18 oz., finished 17 oz., dead loss 15%, and shrinkage 10%, the production of a lighter fabric to weigh 16 oz. finished with expected dead loss and shrinkage as in the old cloth, requires a loom weight of 16.93 oz.

It also follows that with given loom weight and finished weight of 18 and 17 oz. respectively, the following possible combinations of dead loss and shrinkage are a few of the infinite many:

% dead loss	% shrinkage
10.00	4.71
12.00	6.82
13.00	7.88
14.00	8.94
15.00	10.00
16.00	11.06
17.00	12.12
18.00	13.18
19.00	14.24
20.00	15.29

The ease with which we may obtain the shrinkage, dead loss, woven weight, or finished weight, from the slide rule is far outweighed by the significance of figures in the second setting made of the slide rule above. Let us suppose we

Say "Goodbye"
to old Production standards when this

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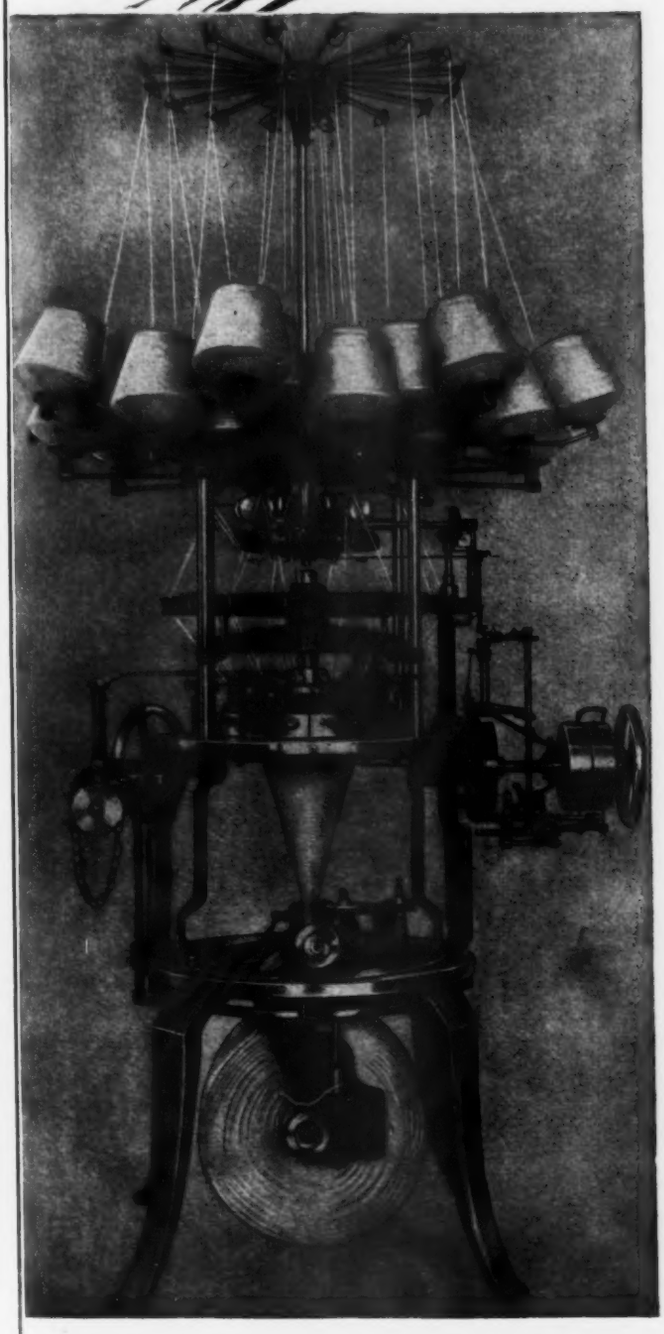

Prepare for double speed ahead in production on the *same floor space*. Yes, that's what it means when you install this

WILDMAN
Multiple-Feed Rib
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In the very same space that your 8-feed machine now occupies, and using only about 1/3 more power

It will* DOUBLE PRODUCTION *or Better

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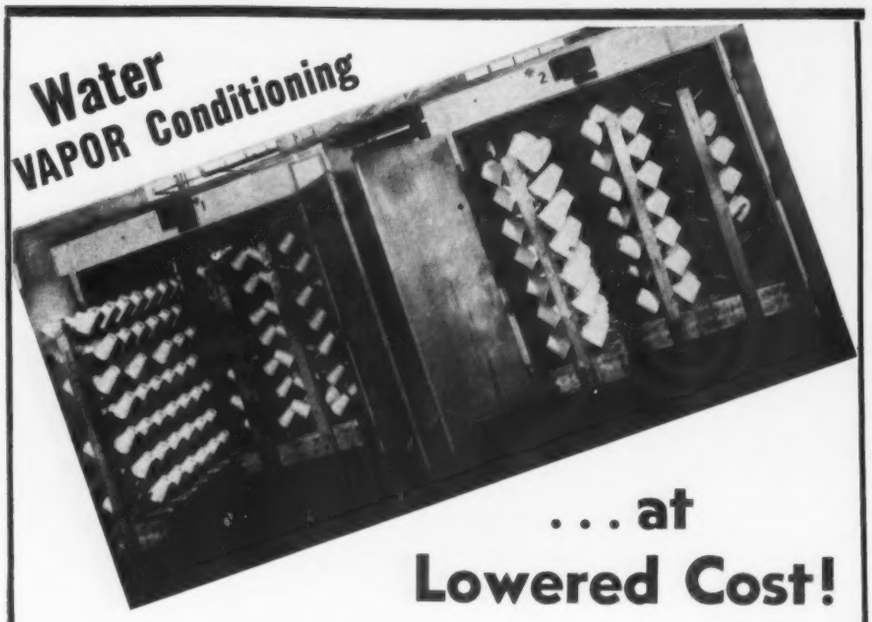

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Installed in hundreds of textile mills, the "H-W" Conditioner is actually saving as high as 70% or more on power costs, formerly spent for conditioning.

In addition, freedom from condensation is assured. Results are always uniform, as temperature, humidity, and time of operation are automatically controlled.

Send for booklet explaining the "H-W" Process.

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STERLING RING TRAVELER CO.
FALL RIVER, MASS.

want to produce a 16 oz. finished cloth, weaving it 17 oz., and with a dead loss of 12% and a shrinkage of 6¼%. If the dead loss increases, to keep the cloth to standard weight it will be necessary to increase the shrinkage. If the dead loss increases to 16%, the shrinkage must be increased to 10¾%. This means that where 100 yd. woven previously resulted in 93¾ yd. finished, with the increased dead loss, 100 yd. woven now produce only 89¼ yd.

In the manufacture of woolen piece goods, good mill management must constantly watch the finished yards of cloth obtained from woven yards. Woolen cloth is expensive and a small percentage of decrease in yardage-yield can result in a tremendous loss on the total volume produced in a month's operation.

Just as an increase in the percent dead loss necessitates an increase in the percent shrinkage to produce a piece of finished cloth of predetermined weight from a given loom weight, so a decrease in the percent dead loss permits a reduction in the shrinkage. Failure to reduce the shrinkage with a decrease in the dead loss results in a fabric weighing more than the standard. This means that the mill is in reality using more pounds than necessary of woven cloth for every 100 yd. of cloth finished. Here, again, the high costs of woolen products makes it imperative that constant watch be kept on these four factors: loom weight, dead loss, shrinkage, and finished weight.

Finishing woolen fabrics to standard weight and shrinkage is not so simple as may be inferred from the calculations presented. However, the use of the slide rule facilitates the necessary computations, and it is believed its use will also show the value of effective control over these four factors.

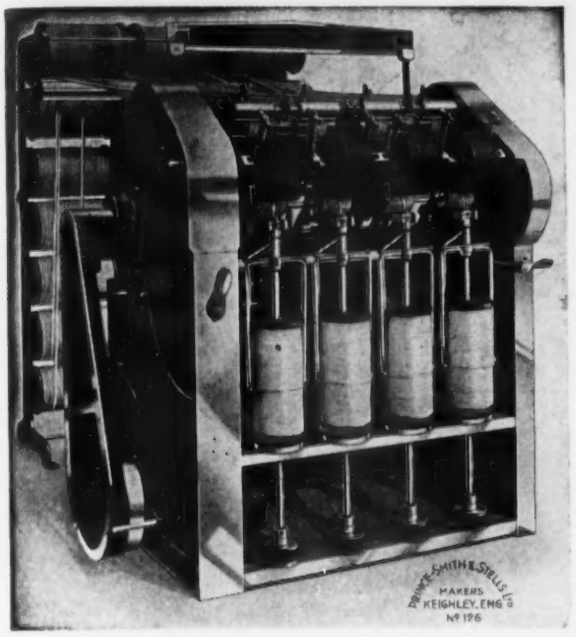
Linen-Type Rayon

(*Continued from page 127*)

At this point, arm *b* emerges from e, and the second crank c, set at an angle with *b*, enters the sectional control track f to regulate the angle of the pins in relation to the fiber path as the pins are withdrawn from the fiber. This system of gill-bar control ensures smooth running.

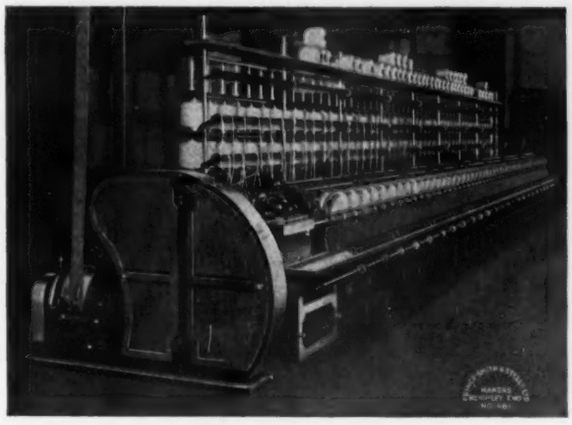
With high-speed frames of this type, the dead-weight principle of press-roll loading is unsuitable. Pressure is applied through springs which are arranged above the drawing head and function through the medium of quick-release levers. The press rolls are mounted on ball-bearing arbors, and the drawing roll is supported on self-aligning ball bearings. These bearings are carried in movable brackets to

WORSTED



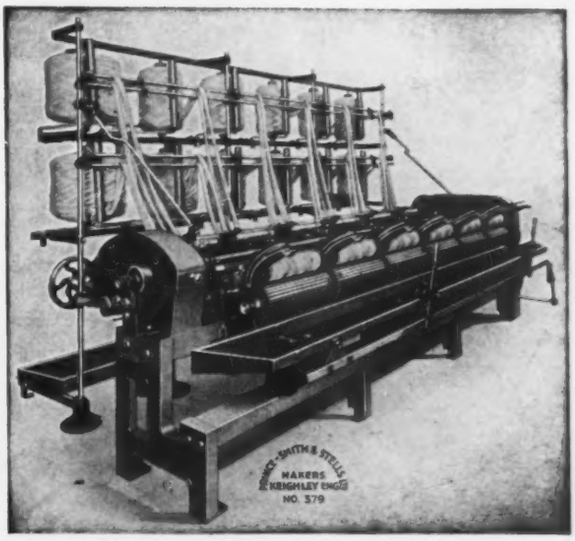
ENGLISH DRAWING BOX

ENGLISH, ANGLO - CONTINENTAL AND CONTINENTAL SYSTEMS



CONTINENTAL DRAWING BOX

WE MANUFACTURE MACHINERY CAPABLE OF PRODUCING ALL QUALITIES AND TYPES OF WORSTED YARNS.



ANGLO-CONTINENTAL DRAWING BOX

WHEN YOU ARE CONSIDERING ANY EXTENSIONS OR ALTERATIONS TO YOUR PLANT MAY WE HAVE THE PLEASURE OF OFFERING YOU OUR SERVICES.

PRINCE-SMITH & STELLS LTD.

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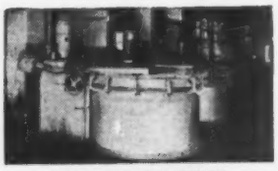
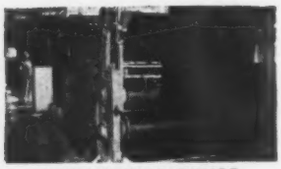
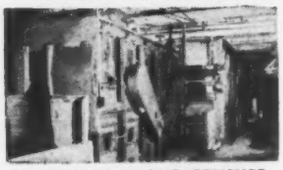

STOCK DYE KETTLES


CARBONIZING RANGE

CLOTH DRYER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which a slow traverse motion is imparted to distribute the wear on the roll surface.

PRESS ROLLS. Maple or sycamore pressing rolls give very satisfactory service on drawing frames. These rolls preferably should be turned from round logs to ensure uniform density. Rolls made from sectional logs present a hard and a soft side, the latter being more likely to pick up the fiber. Roll pressure for efficient drafting must be regulated in accordance with the weight of sliver to be drawn. For coarse frames, 120 to 150 lb. per inch width of roll face is the usual practice. For fine frames, 100 lb. will generally be ample if the roll surfaces are in good condition.

When processing rayon staple by this system, static troubles are eliminated by maintaining a room temperature exceeding 65° F., with a minimum of 65 to 70% relative humidity.

Terry Motion

(*Continued from* page 121)

cloth woven. Using the terry-beam let-off as applied by Crompton & Knowles, we find (Fig. 7).

The pile yarn in its passage to the heddles from the pile warp beam is clearly shown. During this passage it passes around the roller *A* which is covered with emery cloth, over the roller *B* which is covered with white felt, downward to pass under the easing roller *C*, and then forward to the heddles.

The action of the emery- and felt-covered rollers is to hold securely and deliver the warp threads of the pile warp.

When terry is being woven, the ratchet *D*, which is secured to the emery-covered roller *A*, receives momentum from the pawl *E*, which in turn is operated from the cam *F* on the same counter-shaft as the terry cam, through the shaft *G*, lever *H*, connecting rod *J*, and lever *K*. The pawl can be set to move the ratchet one, two, or three teeth at a time by means of adjusting slots in the levers *H* and *K*.

Thus, movement of the ratchet *D* turns the emery roller *A* and delivers, or lets off the requisite amount of pile yarn caused by movement of the heddles by means of the gears *L* and *M*. The easing roll *C* takes up any slack in the yarn caused by movement of the heddles during the delivery. This last roller is set in adjustable bushings to suit the terry being woven, which allows it more or less movement. Too much motion causes uneven terry.

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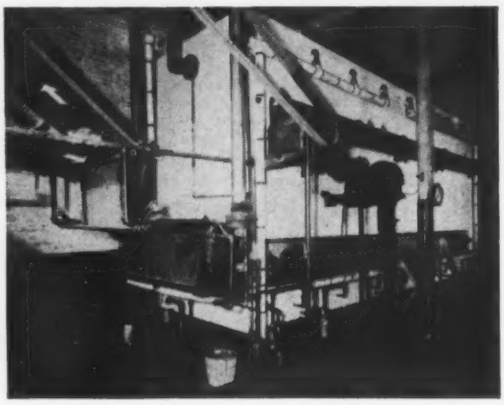

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when the let-off equals the take-up caused by holding the reed back in the terry motion, the following arithmetic produces the correct setting for a 5-1 terry loop:

Assume that the pick gear gives 40 picks per inch and the circumference of the emery roller A is 8¾ in. Therefore one complete revolution of the ratchet D will deliver 8¾ in. of pile yarn.

However, we need only 5 in. for each 1 in. of cloth (40 picks) and turn the ratchet only on the beat-up pick which is every third pick. So 5 in. divided by 40/3 gives us the amount of terry in inches formed in the making of one loop. Proceeding by calculation: $5 \times 3 \div 40 = \frac{3}{8}$ in.

This ⅜ in. should be the setting of the reed opening of the terry motion.

Dividing the 8¾ in. circumference of the roller A by ⅜ in. gives the number of teeth in the ratchet wheel, moved one tooth at a time. This calls for 23⅓ teeth, which suggests that it would be better to use a larger ratchet and move two teeth at a time. So a 46-tooth ratchet is used. If the picks are altered, both the reed opening and the ratchet will need changing if the weave is to be kept at the 5-1 ratio. Similarly, should the proportion be changed to 4-1 or 6-1, both will need changing. The tables in Figs. 8 and 9 show the reed opening and ratchet required under various conditions. By using the same method of calculation, the reed openings and ratchets may be found for other qualities of terry.

WEAVING BORDERS. When plain cloth or borders are being woven and each pick is beaten up separately, the let-off is not required. The pawl E then is lifted by the connection and spring S, which is operated by an indicator lever, controlled by a pattern chain. Instead of acting as a let-off, it now acts as an extra weighting mechanism, and movement of rollers A and B is controlled by the friction drum and clamp N.

Control is necessary to prevent roughness in the weaves other than terry weaves, as the pile warp is not ordinarily sufficiently weighted for such weaves.

This is the second article in a series on terry-fabric weaving, the first of which appeared in the June, 1946, issue. Succeeding articles will analyze other motions and features of the process.—Editor.

New Tools Aid Fixer

(Continued from page 115)

to shuttle check-straps and binder-springs are required on a rebounding shuttle. The pre-formed hole eliminates need for these adjustments.

RAWHIDE PICKERS. Even on rawhide pickers, as used on shuttle-changing looms, rotary files come in for reducing

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manual labor and speeding the job. When these pickers heat up and bind on the picker rod, they can be removed and quickly cleaned out by running the picker up on a rotating file. If the picker rod is $\frac{7}{16}$ in. in diameter, the rotary cutter should be $\frac{3}{8}$ in. Hold the picker firmly as it feeds with quick movement up onto the cutter. A clear hole, free from sticky oil gum, will allow the picker to work freely and prevent shuttles trapping, broken sticks, and loom bang-offs.

On the rawhide picker, also, some fixers prefer forming a shuttle-point hole before installation. It is rather difficult, however, to judge the exact hole location, as the shuttle may strike high or low or off from center. Nevertheless, if the fixer will use the old picker as a guide, a hole can be placed in the new picker in nearly the exact place the point will strike. On multiple-shuttle work, never place a shuttle-point hole in the box-side pickers. Allow the shuttles to find and form these holes. This practice will prevent boxes trapping on shuttle changes. On single-shuttle weaving on multiple-shuttle looms, a preformed hole in rawhide pickers is satisfactory. A preformed hole is especially desirable on dead-tension shuttles, as a longer sweep or check can be carried to prevent rough cloth or loopy edges.

Occasionally, cotter pins may shear off on parts of loom motions, especially on picking-balls where the sudden sharp blow, when picking takes place, causes the ball to roll or strike with considerable force against the holding key. A casting is likely to have sharp, rough edges which may shear a retaining cotter. Fig. 4 shows an abrasive mounted for polishing such edges. This small emery wheel will round sharp edges on picking balls or treddle rolls taking a $1\frac{1}{4}$-in. stud. Hold the roll against the revolving abrasive. The sharp, cutting edge will be rapidly smoothed and rounded. This prevents damaged cotter pins and eventually saves fixers many breakdowns.

Mexican Mills

(*Continued from page 90*)

problem. Intensive use of existing machinery in two or three shifts instead of one meant the employment of more workers. Skilled textile workers, however, were few. There was no lack of manpower in Mexico; but inexperienced men, women, and even youngsters had to be put in charge of the machinery. In some cases, the same worker worked during two shifts instead of one. While production increased by 65.9 points from 1939 to 1945 (1939=100), the

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PRODUCT *Chemical Formula; Molecular Weight*	HOOKER SPECIFICATIONS	SUGGESTED USES
Aluminum Chloride, Anhydrous $AlCl_3$: 133.3	Aluminum Chloride . . . . . 98.5% Min. Iron . . . . . 0.05% Max.	Catalyst in synthesis of dyestuffs and intermediates.
Antimony Trichloride, Anhydrous $SbCl_3$: 228.1	Antimony Trichloride . . . . . 99% Min. Iron and Arsenic . . . . . 1% Max. Lead 0%	Catalyst in organic synthesis; mordant in textile printing. Moisture and fire-proofing textile.
Benzoic Acid C_6H_5COOH: 122.1	Benzoic Acid . . . . . 99.3% Min.	Manufacture of dyes. Mordant.
Benzoate Soda, Tech. C_6H_5COONa: 144.0	Benzoate of Soda . . . . . 99% Min.	Preservative in sizes.
CP-40 (42% Chlorinated Paraffin) $C_{26}H_{46.5}Cl_{7.5}$: 625	Chlorine Content . . . . . 42 ± 1% Viscosity at 210°F . . . . . 160 to 180 SUS Acidity as HCl. . . . . 0.006% Max. Color, Union Colorimeter, ASTM . . . . . 1.5 to 2.5 Thermal Stability . . . . . 0.15% HCl Max.	Water-proofing and fire-proofing textiles.
CP-70 (72% Chlorinated Paraffin) $C_{24}H_{29}Cl_{21}$: 1063	Chlorine Content . . . . . 71 ± 2% Iron . . . . . 0.1% Max. Acid Number, mg KOH/gm . . . . . 0.50 Max. Softening Range . . . . . 90 to 100°C	Water-proofing and fire-proofing textiles.
Lauryl Pyridinium Chloride $C_5H_5N(C_{12.6}H_{26.2})Cl$: 292	Semi-crystalline solid (active ingredient) . 85% Min. 30% Water Solution (active ingredient) . 26% Min.	Cationic surface-active agent for textile processing and germicidal specialties.
Sodium Sulfhydrate $NaSH$: 56.1	$NaSH$ . . . . . 70 to 72% Na_2S . . . . . 1 to 2% $NaCl$. . . . . 1% Max. Na_2SO_3, $NaHCO_3$ . . . . . 1% Max. Fe. . . . . 5 ppm. Max. Cu, Ni, Cr, Mn, Pb . . . . . 1 ppm. Max. Water of crystallization. . . . . 28 to 26%	Desulfurizing rayon; calico printing; in sulfur dye baths.
Sodium Sulfide Na_2S: 78.1	Na_2S. . . . . 60 to 62% $NaCl$ . . . . . 1.5% Max. Other Na Salts. . . . . 2.0% Max. Fe. . . . . 8 ppm. Max. Cu, Ni, Cr, Mn, Pb . . . . . 1 ppm. Max. Water of crystallization. . . . . 36.5 to 34%	Desulfurizing rayon; calico printing; in sulfur dye baths.

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number of workers increased only by 23 points during the same period.

The consequence of such abnormal conditions was a lowering of the already-poor efficiency of the mills. As a rule, each weaver runs only two or three looms, four in a few cases; except, naturally, in the case of automatic looms which represent only a small percentage of the total. Moreover, mechanical interruptions and occupational accidents have increased in numbers.

Wages also were substantially increased, though they hardly can keep up with the constantly increasing cost of living. At the end of 1945, the average wage of some nine pesos daily ($1.80) represented an increase of 69.3% over 1939, but the cost of living had increased two- to three-fold during the same period. The textile workers are, therefore, constantly agitating for higher wages.

As a rule, wages in the Mexican textile mills are comparatively low, which is attributable in part to the low productivity of the mills and in part to the fact that most mills are located in rural areas. During the last few years, textile wages increased less than those of other industries. Of the 19 key industries on which fairly reliable statistics are available, the textile industry occupied the twelfth rank in 1945, as against the seventh in 1939.

A couple of years ago, most textile-workers' unions were strongly opposed to modernization of the industry, fearing large-scale lay-off of their members. In recent months, however, they have somewhat altered their position. They now advocate rehabilitation of the industry with ultra-modern machinery, but demand wide guarantees at the same time. They request, especially, that the laid-off workers be taken care of by the industry in one way or another. This position of the unions is possible mainly because Mexican labor laws, based on the principle that a job is to be considered as an equity, are very strict.

Employers cannot reduce the number of their workers at will, even when the work dwindles down, unless they pay a prohibitive indemnity to every laid-off worker to the extent of full three months wages plus 20 days wages for each year of service, a very costly proposition. While it is usually easy to come to an agreement with individual workers, it is as a rule much more difficult and much more costly to deal with their unions, as provided by the law. The employer is, as a rule, to a much greater extent than in the United States at the mercy of organized labor.

Second only to the impossibility of getting new machinery at the present time, the wide demands of the workers are a main hindrance to the modernization of the industry. Operators see no interest in the introduction of labor-

INCREASED DEMAND FOR NOPCO FUA FORCES PRODUCTION EXPANSION*

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prevents "bearding"—a common cause of fiber weakening

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helps increase yarn's tensile strength

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improves spinning and performs equally well on either mules or frames

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does not become set in the yarn during steaming nor in the goods after steaming and crabbing

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performs like an oil on the fibers during carding and spinning and like a soap in the wet finishing operations

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remarkable fulling and scouring results without addition of soap or detergents

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leaves the stuffing-box and folds in same manner as when soap or detergents are used

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saving machinery if they cannot reduce the size of their labor force.

During recent months, however, some progress toward a mutual understanding of the industry's needs seems to have been made. Workers and operators have agreed in principle to a plan for manpower reconversion according to which the number of workers employed by the industry will gradually decrease, though very slowly, by the automatic suppression of any job left by a worker and by the pensioning-off of all workers over 60 years old with below-par efficiency.

According to this plan, 4 to 5% of the total number of textile workers will be eliminated during the first year, and so on until the reduction reaches 25%, which is considered as a sufficient proportion to permit the modernization of the industry.

In middle July, an 18-man mission composed of an equal number of operators' and workers' delegates and several government representatives, left for the United States to study the practical possibilities of modernization of the Mexican textile industry. The mission expects to remain some three months in the United States. More definite plans will be set up by the industry after the mission returns and submits its report.

SELF CRITICISM. As can be seen from the foregoing, the Mexican textile industry is relatively inefficient and expensive, a fact which is frankly recognized by most operators. In a speech made in Mexico City in May, 1946, Don José Robredo, chairman of the National Council of Textile Operators of Mexico, analyzing this state of affairs, listed twelve reasons why the Mexican textile industry is expensive and therefore unable to fill conveniently its mission to clothe the population.

Six of these reasons, he said, are inherent to the industry itself. They are: (1) Antiquated equipment, (2) excess of manpower, (3) low productivity, (4) inadequate administration, (5) lack of specialization, (6) small output per plant.

The six other reasons, external to the industry, are: (1) lack of interest on the part of the government, (2) excessive and unpredictable taxes, (3) complicated laws, (4) high cost of raw materials and parts, (5) deficient and expensive transportation, (6) expensive financing.

As for taxes, Señor Robredo explains that the 500,000,000 meters of cotton cloth annually produced (of which some 350,000,000 are consumed in the country and 150,000,000 meters exported) pay the following direct taxes:

10,000,000 pesos machinery tax
15,000,000 pesos cotton tax
7,500,000 pesos sales tax

(*Continued on page 198*)

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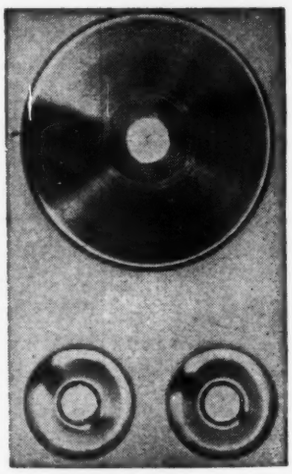

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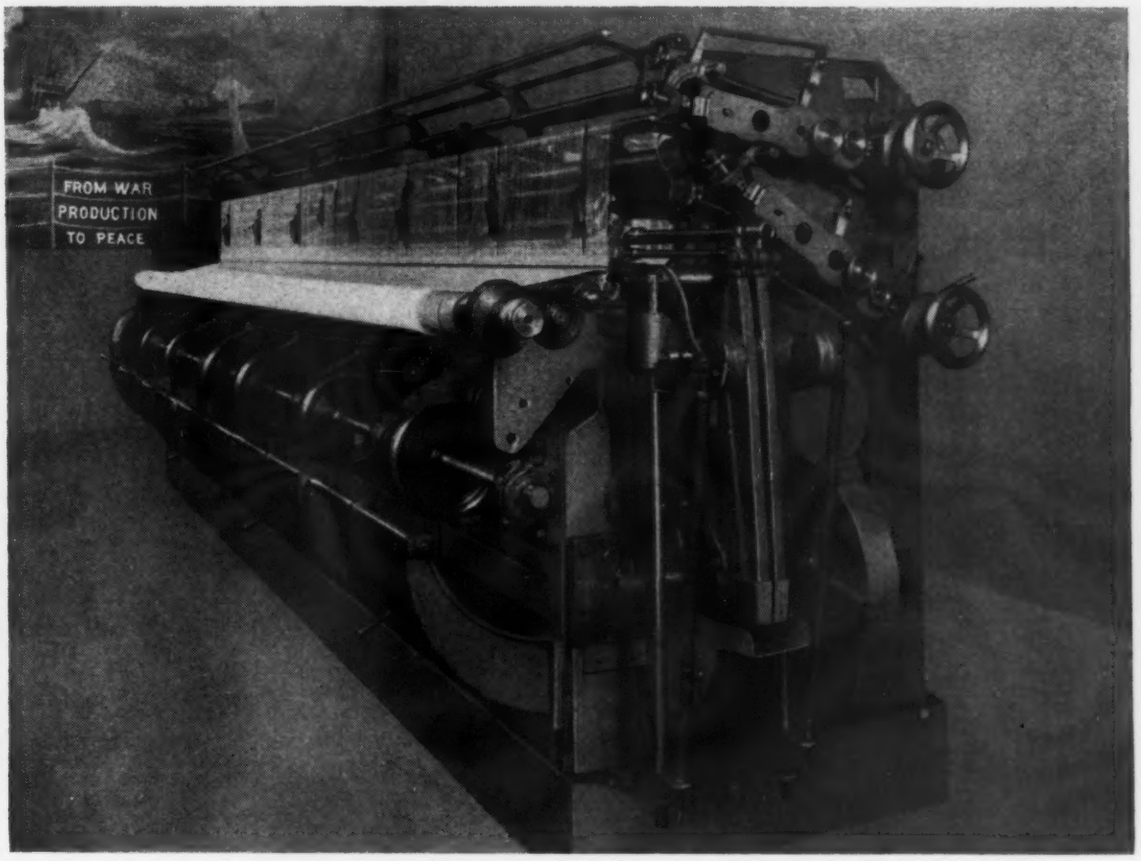

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Its massive construction eliminates vibration and minimizes wear and tear and replacement parts. From its heavy base to its takeoff it incorporates many unusual developments — a design that will assure bigger production over a long and carefree life.

Robaczynski's Tricot is capable of speeds in excess of 500 courses per minute; accommodates 21 inch beams or any other standard size. Of course, it's a two bar 26 gage machine in a 180 inch width. In the long run the Robaczynski will pay you well. See it! Now on display and in operation at our plant.

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A man was getting rayon tow from a yarn house, billed to him as containing 11% of moisture. After he had handled it, the moisture content was only 8%. *He lost 3% of weight on every shipment,* until he installed Air-Perme-Ator. One single Air-Perme-Ator in his carding shed humidified 86,000 cubic feet of space and *restored the 3% of moisture previously lost.*

$5,000 saved in one year in this way paid for the entire Air-Perme-Ator installation in a few months, leaving a handsome margin of profit—and continued thereafter to save the whole sum each year.

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The Air-Perme-Ator maintains even humidity. It is easy to install. It can be hooked up to any lighting circuit and existing water line. No expensive central system is required.

No free moisture is sprayed into the air by the Air-Perme-Ator. It operates on the principle of molecular suspension of moisture—nature's process of humidification — 500 times finer than spray.

The Air-Perme-Ator has been installed by many leading mills in carding room, loom sheds, winding departments, etc.

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Write for report 200 "Regain through controlled humidity".

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300 Preakness Avenue, Paterson 2, N. J.

(*Continued from page 196*)

30,000,000 pesos income tax
5,000,000 pesos State and municipal taxes

The total of 67,500,000 pesos, represents 13.5 centavos, (2.7¢ U. S.) per meter of manufactured fabric. To the foregoing a series of other taxes (on electric bills, weights and measures, boilers, etc.) have to be added.

FUTURE COURSE. Now that the war is over, it is generally admitted that the Mexican textile industry will soon have to make important decisions regarding its future. One of the solutions, of course, would be to rely on still greater import duties than heretofore for the protection of its high-cost production. It appears, however, highly improbable that the Mexican government will deign to levy still higher duties on such mass-consumption goods as are cotton cloth and similar textiles.

The other alternative, modernization of the industry, seems to be the generally accepted course that should be followed. This course is fraught with difficulties, however. Renewal of the existing machinery would represent an investment of some $20,000,000. The industry hesitates to make such an expenditure without the necessary guaranties, especially as regards the workers' attitude. On the other hand, government help, with all its well-known defects and consequences, especially in a country like Mexico, is not desired by the operators at large, most of whom would prefer an individual, piece-meal modernization of their plants, financed from their own pockets, to any outside interference.

The discussions currently taking place between operators, workers, and government representatives on the subject of modernization of the industry and its implications, as well as the results of the study-mission to the United States, will probably help the Mexican textile manufacturers to make up their minds during the coming months on the road they will follow in the future.

Style Simplification Ups Knitting Production

(*Continued from page 113*)

2,500 dozen pairs are combined; and the run is given a number which is recorded on a permanent record, so that each order can be traced at any time. A stamp sheet for each customer is made up of the sizes and colors and marked by the run number. These stamp sheets are combined in one master sheet. An allowance of approximately 10% is made for seconds and redyes.

A master ticket is then made up for each color in the run. This ticket shows the run number, the size range, the number of lots in the run, and the number of dip bags to be used in getting up a color. Attached to this master ticket is a series of boarding tickets, made up in 30-dozen lots, to go with the goods through boarding and finishing.

The master sheet and tickets are sent to the stock room, where each color is made up separately and dropped to the dye house by run number. One copy of the master sheet is dropped with the first color, so that the dye house will know the number of colors and the size of the run and can stamp the date the order was dyed. The master sheet accompanies the last color in the run, thus denoting completion of the run. The sheet then goes to the production department for recording.

After being dyed, the goods are sent to the boarding room for boarding and assorting by sizes and color. Lots are made up in accordance with the boarding tickets. Upon completion, a record is sent to the production office for recording.

From the boarding room, the goods go to the finishing department for pairing, stamping, and labeling. Orders are then completed and sent to the shipping department. Completed clerical records are sent to the production office for recording.

INGRAIN METHOD. Ingrain-pattern orders are handled much in the same manner as the dye numbers, with the exception that tickets are made up for lots of 20 dozen pairs to a size and color. Each knitting ticket is composed of a series of stubs, each of which denotes an operation. As the goods on each ticket are ribbed, knitted, looped, sewed, and inspected, the appropriate stub is marked and sent to the production office. When all stubs for the full order have been received, the production department then sends the goods from the stock room to the boarding room for processing through boarding, finishing, inspecting, pairing, and shipping.

Machine changes, when necessary, are made gradually; and continuous production of a pattern is maintained while changing the machine over to another pattern. Thus, by long-range planning of production, a minimum number of machines are idle during the change-overs.

PRINTING ON *Vinyl Film*

NOW DONE SUCCESSFULLY BY MACHINE OR SCREEN

To provide fast-color prints on vinyl film, Aridye technicians have developed a special line of Aridye* Pigment Colors, together with a simple process of application. These new colors, known as the "V Series," are available in a wide range of shades and have already won favor among textile printers for application by either machine or screen printing.

Among the first of these textile printers to adopt the "V Series" of Aridye Pigment Colors was Millbank, Inc., Passaic, N. J., a leader in the field of novelty printing. An example of Millbank's work is the attractive Bow-Knot pattern on the shower curtain (shown above) now being featured by Scranton Lace Co. in its advertising promotion, under the name Craftspun.

Here is how Millbank printed this striking shower curtain design. (1)—The tinted vinyl film was roller printed with Aridye White VI cut with Aridye Clear 6452. (2)—After printing, the film was dried and shelled up on rolls. No ageing or washing was necessary.

The printing of vinyl film in one or more color designs is yet another example of the versatility of Aridye Pigment Colors. Aridye colors are also being widely used on vinyl-coated fabrics, Fiberglas, Vinyon, Saran, nylon, high-tenacity rayon, and other synthetics. On cottons and blends, too, users have found that Aridye Pigment Colors have equally distinctive advantages.

Why not have an Aridye technical service man discuss your printing or dyeing problems with you? Write Aridye Corporation —Pioneers in Pigment Colors for Textiles—Fairlawn, New Jersey.

*Reg. U. S. Pat. Off.

CHECK THESE EIGHT ADVANTAGES

Sharpness of Mark • Exceptional Fastness to Sunlight
Uniformity of Shade • Fastness to Washing • Bright Colors
Economy • Ease of Application • No Impairment of Hand

Aridye *Pigment colors*

ARIDYE CORPORATION • A SUBSIDIARY OF INTERCHEMICAL CORP., FAIRLAWN, N. J. • ROCK HILL, S. C. • PROVIDENCE, R. I.

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

ITALY'S TEXTILE MILLS Are Key to Her Economic Recovery

HIGHLIGHTS: *Italian industry ready to work for outside firms, retaining part of output in recompense—Recent credit gives her chance to buy U. S. cotton directly—Equipment on virtual parity with prewar.*

PENDING RESUMPTION of normal world trade, the Italian textile industry, which holds the key to that country's economic well being, is pressing a plan whereby Italian mills work for the account of foreign firms whose productive capacity is overburdened. Several U. S. concerns already have taken advantage of the project, which is seen as the only method by which Italy can at present obtain the cotton, wool, and other basic textile materials which were such an important part of her pre-war imports.

To aid the project, which calls for a certain percentage of the finished goods to be retained in Italy, the Italian government allows import without license of cotton and wool for contract work, subject to regulations now being prepared. This type of cotton import may decline, however, as the result of a U. S. Export-Import Bank credit to Italy of $25,000,000 for cotton purchases.

Meanwhile, Italian potential production is practically unimpaired. Approximately 95 % of her textile plants are intact, and she has 200,000 skilled textile workers on tap. What this means in terms of world production is shown

Italian Cotton Mill Statistics

Item	1935–39 average	1945, or latest
Equipment:		
Spindles.....number	5,472,000	5,359,000
Looms.....number	137,800	146,000
Activity of equipment:		
Spindles.....percent active	85.7	25.7[1]
Looms.....percent active	76.9	57.1[1]
Materials consumed:		
Total fibers.....metric tons	199,000	84,000[2]
Cotton.....metric tons	143,000	13,000[2]
Staple fiber...metric tons	56,000	71,000[2]
Total yarns.....metric tons	134,000	(3)
Cotton.....metric tons	88,800	(3)
Rayon.....metric tons	28,000	(3)
Other.....metric tons	17,200	(3)
Production:		
Yarn.....metric tons	173,800	17,000[1]
Cloth.....metric tons	126,400	27,000[1]

[1] 1944.
[2] 1942.
[3] No data after 1939.

Italian Woolen and Worsted Mill Statistics

Equipment	1935–39 average	1942, or latest
Combing machines.....	919	1,129[1]
Carding machines.....	n.a.	1,492[1]
Spindles.....	1,164,220[1]	1,428,384
Woolen.....	539,320	759,704
Worsted.....	624,900	668,680
Looms.....	19,940	21,681[1]

[1] 1941.

Sex Determination for Silk Worms

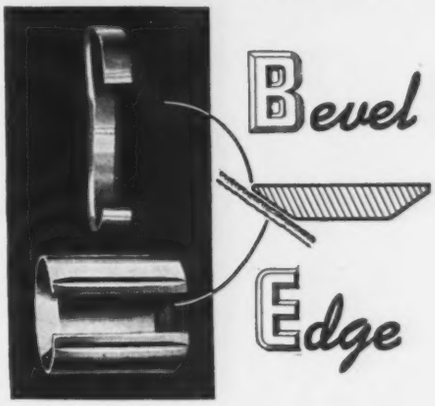
After many years of research, according to McGraw-Hill World News, Professor Boris Astaurov of the USSR Science Academy's Institute of Cytology, Histology, and Embryology at Moscow, is reported to have found a method to make silkworms produce offspring of predetermined sex. Thus only sufficient females for reproduction purposes need be raised, and the males, which it is said give considerably more silk than females, may be utilized for silk production.

To get female offspring, Astaurov gives unfertilized eggs a heat treatment and in 78% of the cases vital caterpillars develop from such unfertilized eggs. They exactly resemble the mother, since no other inheritance elements had been introduced into them.

To obtain exclusively male offspring, Astaurov subjects the female of the silk worm to X-ray treatment before fertilization. The nuclei of its eggs lose their vitality. Only the cytoplasm of the egg remains active. From this develop exclusively males, which duplicate all the traits of the father since only the nuclei of male sex cells take part in producing the germ cell, the female nucleus being destroyed.

In Tune with the times

ANTI-FRICTION TRAVELERS



For smoother running; to safeguard quality.

Anti-friction rings — U. S. "Bevel Edge" anti-friction travelers, both are especially timely because they promote maximum production from existing spinning and twisting machinery. Some of the direct benefits from the Bevel Edge traveler are stated by users as follows:

1. **Less loading up of travelers on cotton.**
2. **Less fly waste on woolen.**
3. **Minimizes split ends on rayon, and silk.**
4. **Much lower end breakage—frequently 8 to 10 fewer per hour.**
5. **More uniform tension—more uniform yarn.**

U. S. Travelers are made and stocked in ALL styles.

DEPENDABLE DELIVERY—
PROMPT SERVICE CALLS

U. S. RING TRAVELER CO.
AMOS M. BOWEN, President & Treasurer
Providence, Rhode Island

"U. S." Men give you Prompt Service!

W. P. VAUGHAN—W. H. ROSE—Greenville, S.C.—Box 792—Phone 3031
O. B. LAND—Athens, Ga.—Box 1187—Phone 478
T. L. MAYNARD—Belmont, N. C.—Box 456—Phone 115
M. L. BOLTON—West Philadelphia—Box 7234—Trinity 1438
H. R. FISHER—Concord, N. C.—Box 83—Phone 8988
C. W. SMITH—H. J. SMITH—L. H. Mellor, Jr., Providence—Gaspee 0100

Getting Uneven Yarn?

Worn saddles may be the trouble, for they *will* cause the top rolls to drag.

Inspect your saddles at regular intervals and replace them the minute they have outlived their usefulness, as they won't last forever.

"It costs so little and saves so much."

LOCK-IN SADDLE

Has device for oiling top rolls with very little attention. May be used to weight all three rolls or (by reversing back saddle) to weight front and back rolls only. One of many different types that we furnish.

DIXON LUBRICATING SADDLE CO.
Established 1876
BRISTOL, RHODE ISLAND, U. S. A.

Sole Manufacturers of
DIXON
LUBRICATING SADDLES

in the following U. S. Department of Commerce statistics:

COTTON—The most important cotton division, one of the most efficient in Europe, had nearly 5,500,000 spindles prewar and about 136,000 looms. Production averaged 386,000,000 lb. of yarn and cloth.

WOOLENS AND WORSTEDS—In 1937, Italy ranked second to Great Britain as a wool-goods exporter, placing nearly one-third of its output in foreign markets. It had 580,000 woolen spindles and 653,000 worsted spindles. Output was 50,000 metric tons of woolen yarns and 25,000 metric tons of worsted yarns. Weaving capacity was estimated at 35,000 to 40,000 metric tons of fabric annually, for less than 20,000 looms.

SILK—Cocoon production this year is estimated at 40,000,000 lb., less than half of normal prewar years. Manufacturing capacity was placed in 1939 at 36,413 basins, 1,416,991 spindles, and 25,518 looms.

HEMP AND LINEN—In 1939, a total of more than 130 plants had some 35,000 spindles, 8,500 gill spinning frames (for coarser counts), 24,000 twisting frames, 5,700 calenders, and 8,600 power looms. Hemp and linen yarn production totalled 38,000 metric tons, nearly all of which went into finished products. Jute industry had 35 plants with total of 100,000 spindles and 5,400 power looms.

RAYON—For more than a decade, Italy was the world's leading rayon yarn exporter, and, during the self-sufficiency campaign, production averaged 93,090,000 lb. of filament and 104,522,000 lb. of staple fiber. In 1937 there were 50 plants with a total of 145,000 spinnerets and 700,000 throwing spindles. During the war, when wool and cotton imports stopped, production was stepped up to 190,000 metric tons, exceeding the average combined cotton and wool supplies in the 1935-39 period. Mixed fabrics were stressed. But the rayon industry's dependence on coal, one of the shortest commodities in Italy, now makes its operation a major problem.

Textile Equipment News

(*Continued from page 134*)

moves any chance of the stem becoming distorted or bent. All shocks are absorbed by a multiple full threaded section of the handwheel and yoke. All threaded surfaces and operating parts are protected from paint, dirt, and damage by an encasing cap shield.

Essential operating parts of the valves are provided lifetime lubrication by a special factory-sealed process, it is reported, and the sealed lubricant is zoned entirely away from the flow stream and isolated from temperature effects to insure lasting permanence.

This new design is provided in shut-off valves, throttling valves, internal and external check valves, and stainers.

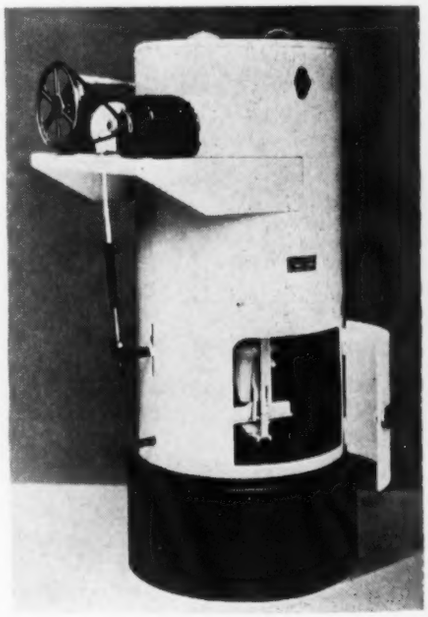
Hydrosulphite Feeder Has Capacity of 5 to 200 lb.

The Hydromiser, a machine for continuously and automatically feeding dry sodium hydrosulphite to dye machines, has been announced by Virginia Smelting Co., West Norfolk, Va. Designed particularly for use with continuous-processing machinery, it is said to be applicable in any process where uniform strength of reducing bath is desired.

The two chief advantages claimed for the machine are: Savings of 10 to 15% in amount of hydrosulphite used; and greater uniformity of color in dyeing. The machine also reduces labor costs of feeding hydrosulphite, it is said.

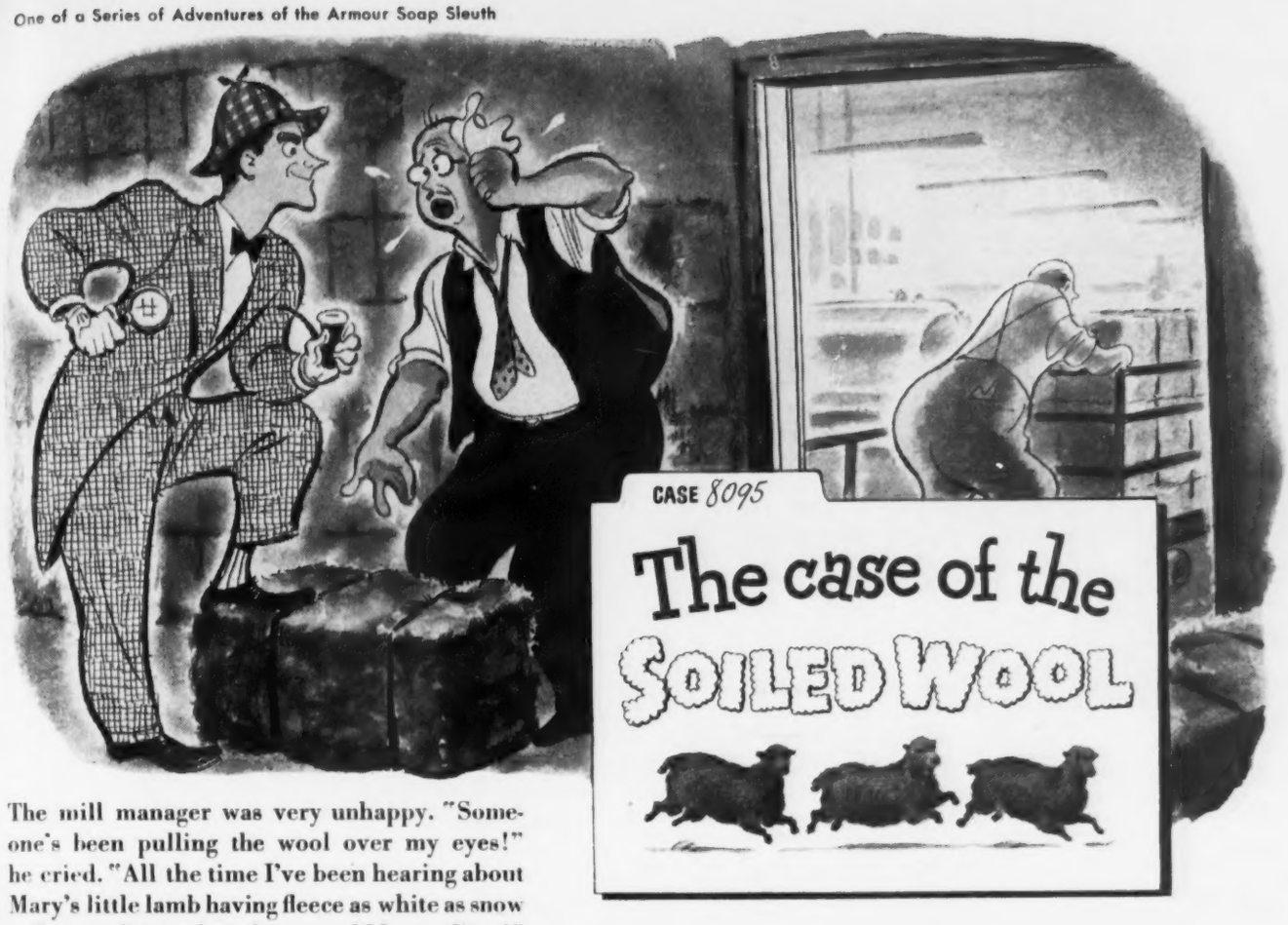
Constant feed is effected by an oscillating hopper which feeds a horizontal receiving tray. The back-and-forth movement of the hopper pushes hydrosulphite from the ends of the tray and the amount fed can be controlled within 3%, it is stated, by means of a micrometer screw adjustment on the connecting rod driving the hopper.

The machine is powered by a ¼-hp. single-phase, 60-cycle, 115-v. motor. It will feed from 5 to 200 lb. per hr., and the hopper is of 300 lb. capacity.



Hydromiser feeds hydrosulphite automatically, with range of 5 to 200 lb. per hr. (Va. Smelting)

One of a Series of Adventures of the Armour Soap Sleuth



The mill manager was very unhappy. "Someone's been pulling the wool over my eyes!" he cried. "All the time I've been hearing about Mary's little lamb having fleece as white as snow —I never knew that sheep could be so dirty!"

He looked sadly at the wool around him. "This wool-scouring operation of ours is *supposed* to clean up the fibres, leave our wool soft and resilient for the blending and carding."

"I know," said the Armour Soap Sleuth. "And with the right type of soap your raw wool scouring will do just that. To do this job *right*, you need a low-titer soap like Armour's Texscour."

"You see, Texscour, a red oil base soap in flake form, has a low titer of 8-12 °C. Texscour gives quick, lasting suds—and lots of them! Texscour cuts grease, knocks out all soil and foreign material quickly, rinses out at once in warm water. You get a *better, cleaner* scour . . . and delicate wool fibres stay soft and resilient! Incidentally, Texscour is only one of the soaps Armour makes for the textile industry. Give me a ring if you need any help." With that the Sleuth grabbed his trusty glass and was off to solve another textile problem.

INDUSTRIAL SOAP DIVISION

Armour and Company

1355 W. 31st Street, Chicago 9, Illinois

NOW

2000 lbs.

PER BATCH

On acetate yarns (determined by type of yarn and count) we can now produce our "Superfast" colors, *one ton per shade*, in one dyeing, on packages.

Atlantic Rayon
CORPORATION

Dyers and Converters of Synthetic Yarns for All Industries

Plant at Providence 1, R. I.

BRANCH OFFICES:
Empire State Bldg., 5th Ave.
New York 1

3701 North Broad St.
Philadelphia 40

★

News of the month

Cotton Goods Ceilings Up 16% over June 30. An average increase of 16% over old ceiling prices for major cotton textile items was proposed by the newly revived OPA on July 30. The industry had asked for an increase of 20%.

The price decontrol board appointed under the new OPA comprises Roy L. Thompson, president of the Federal Land Bank of New Orleans, as chairman; Daniel W. Bell, president of American Security & Trust Co., Washington, D. C.; and George H. Mead, chairman of board of Mead Pulp & Paper Co., Dayton, Ohio.

Sale of Silk. In the recent sale of 5,130 bales of Japanese raw silk to 103 firms by sealed bid, 49 hosiery mills were among the successful bidders. The average price for 13/15 denier silk was $9.23 per lb., and 14/16 was $8.54. Prices ranged from $6.78 to $16.50. The next lot of Jap silk to be offered will, it is said, amount to 8,000 bales.

To Make Redman Shrinker. Contracts have been drawn between the trustees of the Redman Trust and Proctor & Schwartz, Philadelphia, for the construction by the latter of an experimental, pilot shrinking machine for knit fabric.

N. Y. Hosiery Men's Golf. The New York Association of Hosiery Mills Salesmen held its annual golf outing at the Crestmont Club, West Orange, N. J., on July 16. Chairman of the event was George Carlson of Hanes Hosiery, Inc.

For Better Labor Relations. Employer-employee relations must be improved if free enterprise is to be maintained and individual initiative is to be rewarded by success, Guy B. Arthur, Jr., of New York, vice-president of American Thread Co., told management representatives at the Southern Conference on Human Relations in Industry held at Blue Ridge, N. C., July 18 to 20. Urging industry to take a realistic attitude toward organized labor, Mr. Arthur pointed out that labor no longer can be treated as a commodity which can be bought and sold at will. Management is coming to realize the need for a stable and contented working force, he said, and is giving more attention to the human factor in industry. Speakers from various industries addressed delegates who were intent on finding a reasonable solution to the difficult problem facing the South's industrial development. In the group were 400 registrants from top management, supervisors, workers. Among the speakers were many from the textile industry and allied fields including in addition to Mr. Arthur, J. J.

Textile Calendar

Fourth National Chemical Exposition, Chicago Coliseum, Chicago, Sept. 10 to 14, 1946.

Second National Electronics Conference, Edgewater Beach Hotel, Chicago, Oct. 3 to 5, 1946.

Southern Hosiery Manufacturers Association, annual meeting, Grove Park Inn, Asheville, N. C., Oct. 17 to 19, 1946.

Seventeenth National Exposition of Power & Mechanical Engineering, Grand Central Palace, New York, Dec. 2 to 7, 1946.

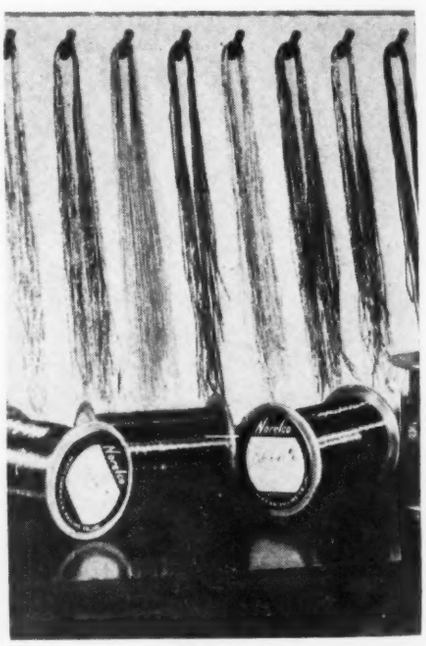
Seventh International Heating & Ventilating Exposition, Lakeside Hall, Cleveland, Ohio, Jan. 27 to 31, 1947.

Knitting Arts Exhibition, Convention Hall, Atlantic City, N. J., Apr. 29 to May 2, 1947.

National Association of Hosiery Manufacturers, annual meeting, Hotel Claridge, Atlantic City, N. J., Apr. 28, 1947.

Hosiery Industry Conference, Hotel Claridge, Atlantic City, N. J., Apr. 28 and 29, 1947.

Second National Plastic Exposition, Coliseum, Chicago, May 5 to 11, 1947.



NORTH AMERICAN PHILIPS CO., INC., New York, has developed a durable colored coating on a wire of hair-like diameter. The display case shown contains strands of different colors wound into a tight spiral. It goes into fabrics for bags, gloves, gowns, slippers, and hats.

KNOW EXACT MOISTURE CONTENT *OF YOUR MATERIALS*

CERAMIC
CHEMICALS
CLAY
COAL
COKE
FABRICS
FEED
FIBER
FOOD
GRAVEL
PAPER
PULP
RUBBER
SALT
SAND
SUGAR
TOBACCO
WOOD

By means of the Dietert Moisture Teller, you can determine quickly and accurately the moisture content of the materials you use. An experienced laboratory technician is not needed. Any intelligent person can operate it—no curves to plot—no involved mathematics.

The Moisture Teller is a simple self-contained instrument sturdily built, easy to handle and fully enclosed to eliminate all fire hazard.

Electrically heated drying air is driven through the test sample. Temperature may be accurately controlled when necessary. Drying time for most materials is approximately 60 seconds. Built in 4 models.

Write for specifications and prices.

HARRY W. DIETERT CO.

9336 ROSELAWN AVE. • DETROIT 4, MICHIGAN

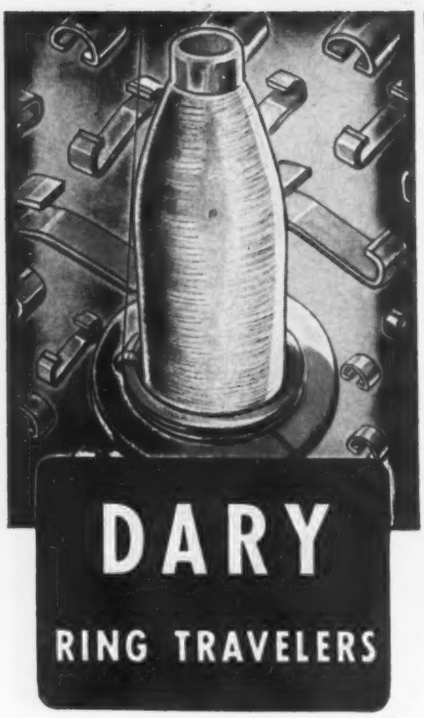
LOOK TO LEWELLEN

Expect a time-proved solution to your speed-control problem

★ Often, the simple installation of a Lewellen Variable-Speed Transmission or Motor Pulley performs production miracles. Many times, however, even a Lewellen "packaged installation" cannot deliver the results required for highest efficiency. It is our business to know when your problem is simple or complicated. The experience of this organization — pioneers in speed-control — is available to you.

Lewellen Variable-Speed Transmissions, Variable-Speed Motor Pulleys and Automatic Controls serve industry everywhere. Lewellen engineers are constantly finding new ways to adapt modern speed-control to fixed-speed machines and to improve inefficient speed-control methods. Tell us your problem! Look to Lewellen! Lewellen Manufacturing Company, Columbus, Indiana.

LEWELLEN *Variable-Speed*
TRANSMISSIONS—MOTOR PULLEYS



Distinguished Travelers

•

DARY RING TRAVELERS

•

DARY REPRESENTATIVES

•

The Dary Ring Traveler gets around. It lasts longer on the ring without replacement. Here is a traveler distinguished for superior performance in the spinning and twisting of all cotton, wool, worsted, silk and rayon yarns.

Distinguished for careful design . . . extra "wear-ability" . . . higher spindle speeds — truly indispensable to better spinning and twisting.

Call on your friendly Dary Representative. He gets around, too; you'll find him eager to help.

★ PROCESSED ★
SYMBOL OF SUPERIORITY

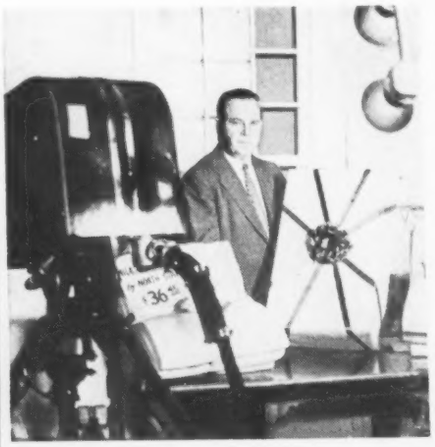
The DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS

JOHN E. HUMPHRIES, BOX 843, GREENVILLE, S. C.
JOHN H. O'NEIL, BOX 720, ATLANTA, GA.
H. REID LOCKMAN, BOX 513, SPARTANBURG, S. C.

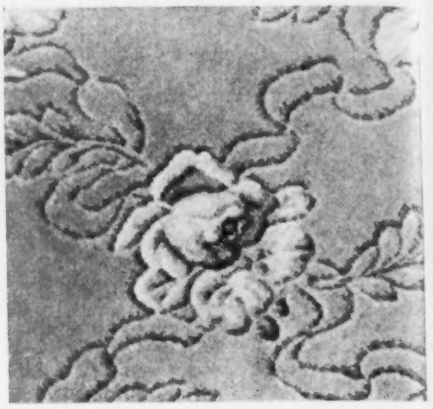
Evans, Jr., general personnel manager, Armstrong Cork Co.; T. M. Forbes, executive vice-president, Cotton Manufacturers Association of Georgia; Gerry R. Schenck, director industrial relations, Riegel Textile Corp.; H. Gordon Smith, vice president, U. S. Rubber Co.; Frank DeVyver, personnel director, Erwin Cotton Mills. The importance of the supervisor was stressed throughout the many sessions and the unanimous opinion of the speakers was that he must be made a real part of managment in deed as well as in name.

Industry Committee Reconstituted. The Industry Committee of The Association of Cotton Textile Merchants of New York has been reconstituted with Gerrish H. Milliken, of Deering Milliken & Co., Inc., as chairman. Saul F. Dribben, of Cone Export & Commission Co., was named vice chairman. It will function as a general market committee for the better guidance of members and the market in the unusual situations that lie ahead.

More Cotton Set-Asides. To stimulate production of suits, overcoats, and other scarce garments for men, boys, and children, CPA ordered textile mills to set aside part of their production of cotton materials during the third quarter for use in pockets, linings, waistbands and other apparel components under Order M-317A. The new apparel component set-asides call for 100% of all production of three-leaf pocketing twills (sheeting yarn constructions), three-leaf silesia twills (sheeting yarn constructions), and three-leaf twills (print cloth yarns), as well as 50% of interlining flannels and varying proportions of the output of combed and carded sateens, carded twills, sheetings, and print cloths. The latter fabrics are included because sufficient quantities of the three customary twills will not be available to meet requirements.



NORTH STAR WOOLEN MILL CO., Minneapolis, participated in the 75th anniversary celebration at Kaufmann's, Pittsburgh, recently, by staging a 15-minute television program. M. W. Evans, North Star assistant sales manager, took the principal part in the show which dramatized various steps in the manufacture of North Star blankets. Here he holds a pair of Luxuria blankets, designed to retail at $145.00 per pair.



ALEXANDER SMITH & SONS CARPET CO. highlights a new carpet line embodying craftsmanship and beauty called Patrician Carved Axminster Broadloom, a sample of which is shown above. C. H. Masland & Sons also are showing a sculptured line under the brand Regency Wilton.

To Study CPA Regulations. Plans for an immediate study of CPA regulations on production and distribution of cotton fabrics were drafted on July 23 at the first meeting of CPA officials and a recently formed group of cotton industry consultants headed by Walter S. Montgomery, chairman of ACMA.

Rayon Fabric Set-Asides. Third quarter distribution of rayon fabrics will continue to be controlled by present rayon regulations, CPA stated on July 16. Order M-391 has been in effect since April of this year. It requires mills to set aside 10% each of 10 different rayon fabrics for use in linings of women's suits, coats, and jackets. In addition, it limits the number of ratings which a supplier must accept, where the ratings are MM (issued for military procurement) or CC ratings issued for bottleneck materials and certain other purposes described in Priorities Regulation 28A. It is expected that during the third quarter 15,000,000 linear yards of rayon will be set aside under M-391, as compared to an estimated 16,000,000 yards during the second quarter. These quantities are in addition to those set aside for low cost clothing under Order M-328B and for men's suit linings under Direction 28 to Order M-328.

Cotton Flannel Protest. Cotton flannel producers have protested to CPA against the proposed diversion of 20% of out-

SQUARE CUT

Thread

from

LIQUID LATEX

It's the Better Thread because it's —

① Made from Liquid Latex

② Formed with multiple plies

③ A square cut thread

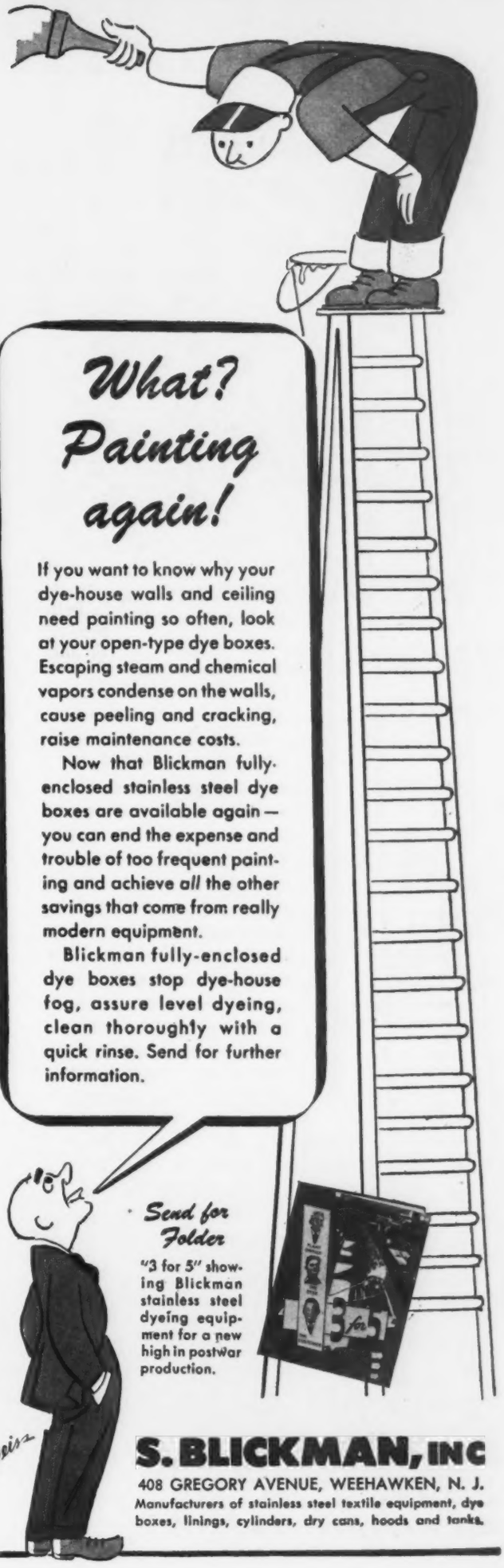
④ Longer Lengths

Now in Production in Our New, Modern Plant

★

ANDREWS-ALDERFER PROCESSING COMPANY

120 ASH STREET
AKRON 8, OHIO



What? Painting again!

If you want to know why your dye-house walls and ceiling need painting so often, look at your open-type dye boxes. Escaping steam and chemical vapors condense on the walls, cause peeling and cracking, raise maintenance costs.

Now that Blickman fully-enclosed stainless steel dye boxes are available again — you can end the expense and trouble of too frequent painting and achieve *all* the other savings that come from really modern equipment.

Blickman fully-enclosed dye boxes stop dye-house fog, assure level dyeing, clean thoroughly with a quick rinse. Send for further information.

Send for Folder

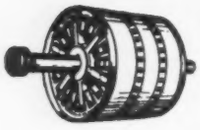
"3 for 5" showing Blickman stainless steel dyeing equipment for a new high in postwar production.

S. BLICKMAN, INC

408 GREGORY AVENUE, WEEHAWKEN, N. J.

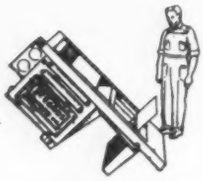
Manufacturers of stainless steel textile equipment, dye boxes, linings, cylinders, dry cans, hoods and tanks.

Stearns MAGNETIC EQUIPMENT



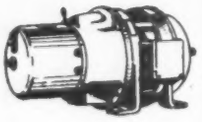
Stearns Magnetic Pulleys, air-cooled for more power. All sizes or complete separator units. Bulletin 301.

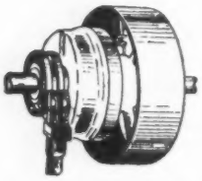
Stearns Suspended Separation Magnets, Bulletin 25. Lifting Magnets, Bulletin 35, all sizes and shapes.



Stearns Automatic Spout Magnets for catching tramp iron in your material flow. Bulletin 92.

Stearns Magnetic Disc Brakes stop over-running motors and machinery. Rugged and compact design. Bulletin 604.





Stearns Magnet Clutches and Clutch-Brake units for near or remote control on Machinery. Bulletin 225.

Investigate the Stearns Air Duct Magnet for collecting tramp iron as well as arresting flow of other non-magnetic objects found in cotton, wool, shoddy and other material, an effective, automatic strong magnet designed especially for the textile industry.

For Magnetic Equipment Consult Stearns Magnetic, Milwaukee 4.

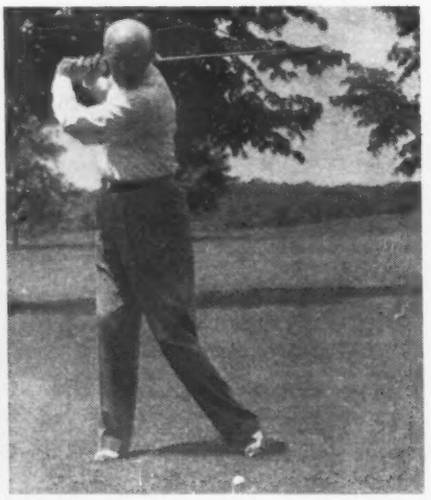
IF IT'S MAGNETIC WE MAKE IT
PULLEYS · BRAKES
DRUMS · CLUTCHES
SEPARATORS · FILTERS
ORE CONCENTRATORS
SEPARATION OR LIFTING MAGNETS
Stearns MAGNETIC MANUFACTURING CO.

646 So. 28th St. MILWAUKEE 4, WIS.

ing flannels and 50% of interlining flannels from customary essential apparel and industrial uses to the men's and boys' clothing trades. Manufacturers of sleeping garments, together with hospitals, milk and food processing industries, diaper manufacturers, and other necessary users, are threatened with closing plants or curtailing necessary supplies and services if this net set-aside is added to the previous burden of set-asides when the new third quarter M-317A order is issued, the flannel producers held.

U. S. Makes Half World's Rayon. World rayon production during 1945 amounted to 1,530,000,000 lbs., the lowest output since 1936, states the *Rayon Organon*. Rayon production in 1945 was 46% under the record 1941 output of 2,834,000,000 lbs. and 26½% below the 1944 level. Production in North and South American countries continued to increase in 1945 but serious declines in output occurred in Europe and Asia. For the first time in the history of the industry, rayon output in the Americas exceeded that of Europe; in fact, rayon production in the United States alone comprised 52% of the 1945 world total.

Expect Still More Research. A sevenfold increase in cotton research was predicted by the National Cotton Council when the $61,000,000 authorization bill for agricultural research passed the House of Representatives without an opposing vote. A companion bill sponsored by Senator Richard Russell (D. Ga.) may reach a vote in the Senate but adjournment may catch the bills in incomplete state.



ARTHUR H. EMERSON, of John F. Street & Co., Chicago, president of the Yarn Men's Club, is shown on the links of the Barrington Hills Country Club, Barrington, Ill., while playing in the 22nd golf tournament of the club in late June. Note was made of this event in these columns last month.

Wool Secretariat in Paris. A full branch office of the International Wool Secretariat has been established in Paris, which links the United States, Great Britain, and the Dominions with the European Continent, in the Secretariat's program to further the interests of wool throughout the world. The headquarters in Paris will serve France, Belgium, and Holland and three separate Advisory Committees, one each for France, Belgium and Holland will be set up. Paris headquarters of the Secretariat will stimulate the use of wool in French creations.

New Self-Heating Blanket. A new electronic blanket was featured at the opening of the new Simons Co. headquarters at 1 Park Ave., New York, last month. Developed by the company's engineers, the electrically-heated blanket is operated by electronic control. It automatically maintains the degree of warmth selected by the user and compensates for changes of body and bed temperature.

Swedish Research. A Swedish Institute for Textile Research has recently been opened at Gothenburg. The institute, which is connected with the Chalmer College of Technology, has been financed jointly by the Government and the Swedish textile and clothing industries. It cost $375,000.

British Join in Machine Demand. Prodded by the British government to modernize their plants or get out of business, progressive English textile manufacturers are preparing to rush into the already overbooked U. S. equipment market for about $20 million a year of the latest production machines. Bulk of the demand will be for automatic looms and high-speed automatic winders for cotton manufacture, and automatic looms for the rayon industry.

Gets Safety Award. James Daniel (Uncle Dan) Woodruff, 68, was honored at a banquet arranged by the Chatham Mfg. Co., Elkin, N. C., at which he was presented the National Safety Council's annual industrial safety award. This is the first time the award has gone to a Southern worker. E. C. Padgett, director of safety for the North Carolina Industrial Commission and secretary of the National Safety Council Section Executive Committee, made the award. Uncle Dan has worked 50 years for the firm without a single day lost due to an industrial accident. He has two sons who have worked for the company since 1924, both without a lost-time accident.

WHY CHROMIUM PLATE TEXTILE MACHINE PARTS

BECAUSE CHROMIUM IS THE HARDEST METAL FINISH OBTAINABLE

IT PROTECTS LONGER!

Walhard

WALHARD, The Engineered Industrial Hard Chromium Plating Service insures long-life, eliminates danger of corrosion, steps up performance of new machine parts and restores correct dimensions; thus salvaging worn or undermachined parts.

WHY WALHARD?

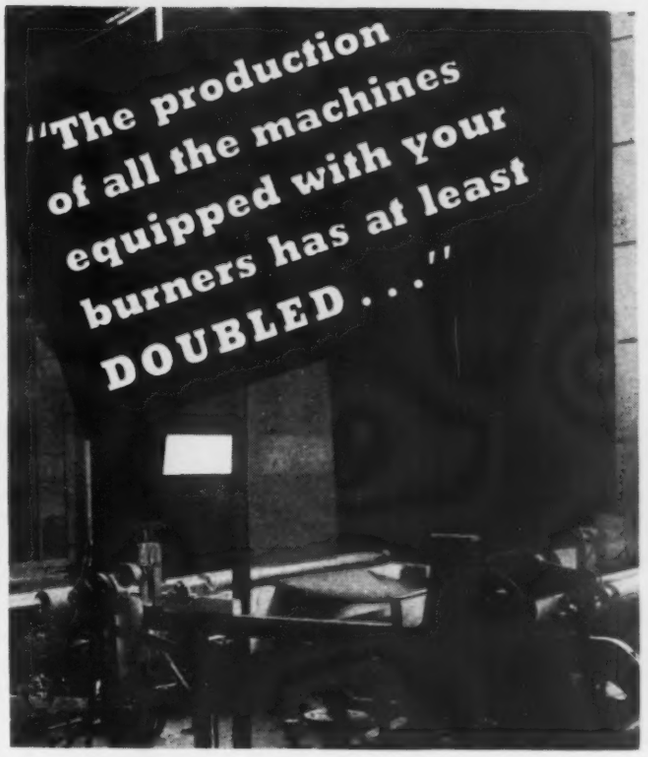
Read "Why" in the new 8 page, illustrated WALHARD booklet — yours FREE — Send for it today!

WALTON AND LONSBURY

78 NORTH AVENUE

ATTLEBORO

MASSACHUSETTS



Pays to apply modern **CARBOMATIC INFRA-RED** heating on all your Singers, Slashers, Curing Ovens, Tenters, Palmers, etc.

•

PASSAIC Piece Dye Works Passaic, N. J., made an exacting two-year mill test of their CARBOMATIC INFRA-RED installations—then wrote us the above report on *doubled production!*

In applying CARBOMATIC INFRA-RED generators to tenters, palmers, drying boxes, and preheaters for steam cans, PASSAIC and its associated companies found they were getting *better* drying as well as faster drying. No wonder they term CARBOMATIC INFRA-RED an *"important advance in textile equipment."*

CARBOMATIC pioneered the amazing new INFRA-RED heating technique in the Textile industries. Increased yardage, precision accuracy in control, freedom from torching, greater flexibility of operation and better working conditions . . . tell only half the story of CARBOMATIC installations. With CARBOMATIC INFRA-RED, textile products of higher, *uniform* quality are being turned out consistently—at less cost! Yet INFRA-RED application involves no changes in your primary equipment set-ups.

You can't afford to ignore this modern method and its many advantages in a competitive industry. Let our Textile Engineers give you all the facts.

Write today for Bulletin TW-8

CARBOMATIC

CORPORATION • *INFRA-RED DIVISION*

117 W. 63rd STREET
NEW YORK 23, N. Y.

INFRA RED UNITS

IF IT'S INFRA-RED — BE SURE IT'S

IN CANADA
Canadian Textile Engrg. Ltd.
980 St. Antoine St., Montreal

BE WISE
ECONOMIZE

DESIZE WITH EXSIZE

WHATEVER your own particular finishing problem, scientific tests will show that EXSIZE... our natural enzyme desizer will do the best and most economical job for you.

So why not use our laboratories for your tests or let a Pabst Technical Man work with you in your own mill? You'll soon prove to your own satisfaction the many advantages of employing this safe, easy to use desizing agent. Containing no harsh chemicals, EXSIZE leaves materials supple, elastic, soft... turns out clean, absorbent fabrics. And hundreds of yards of cotton or cotton-mixed cloth can be desized with EXSIZE for only a few pennies.

Write for Free Booklet

PABST BREWERIES

Copr. 1946, Pabst Brewing Company, Milwaukee, Wisconsin.

PABST SALES COMPANY
CHICAGO, ILLINOIS
Warehouses at Jersey City, and Textile Warehouse Company, Greenville, S. C.

NEWS ABOUT *Suppliers*

Universal Winding Co., Providence, R. I., has appointed Winthrop S. Warren as domestic sales manager. Mr. Warren has had 27 years service with the company, which included the opening of the original Atlanta Office in 1920, and assignment to the company's offices in Charlotte and Utica. He has been in the New England territory for 25 years of which the last 10 have been as New England sales agent. T. L. Cotter will continue as executive sales agent, and Waters Kellogg as advertising manager and sales-research director.

Draper Corp., Hopedale, Mass., is purchasing the American business of Medgentra, Ltd., of Asheville, N. C., to enlarge its sources of dogwood and persimmon for shuttle blocks. Draper thus acquires 14 strategically located sawmills in the South to add to the sawmills already owned in Maine, New Hampshire, Vermont, and New York.

Foster Machine Co., Westfield, Mass., has named Harold W. Ball to succeed Lester Campbell, chief, engineering department, who has retired. Mr. Campbell is one of the pioneers in the development of textile machinery having joined this company in 1894, only three years after it started operation. Mr. Ball, before joining the company several years ago, was connected with E. I. du Pont de Nemours & Co., Inc., at Buffalo, N. Y., and Seaford, Del.

Marshall & Williams Corp., Providence, R. I., is now owned by Messrs. Huntoon, Mason, and Viall and managed by Richmond Viall as vice president and treasurer and John C. Nash as secretary and sales manager. Mr. Viall was with the Brown & Sharpe Mfg. Co. for many years and Mr. Nash was in charge of the Rhode Island War Production Board. John H. Williams, Sr., is still with the company in an advisory capacity.

Dewey & Almy Chemical Co., Cambridge, Mass., has appointed Paul R. Hodges as textile consultant. Formerly, for many years, Mr. Hodges was sales manager of the Textile Division, handling the sales of the Darex print and wash blankets, and Darex blanket washers and powder dryers.

Alfred Hofmann, Inc., has opened a Southern office located

Chief Executives of H & B American Machine Co.

Wm. A. Sipprell, Jr. *Louis C. Edgar, Jr.* *Elmer J. McVey.*

H & B AMERICAN MACHINE CO., Pawtucket, R. I., has lately been reorganized due to purchase of the Riley control by other interests. The principal executives lately appointed are shown above. William A. Sipprell, Jr., has been elected chairman of the board. He and his associates recently purchased control of the company. Louis C. Edgar, Jr., is the newly elected president, and will devote much of his time to production. He was formerly general manager of the Martins Ferry Division of Blaw-Knox Co. Elmer J. McVey, was recently elected executive vice president and general manager. He has been with the company for many years and has a wide acquaintance in the industry, both North and South.

STYLE 28
ROVING TRUCK

LANE
TRUCKS
CANVAS

For the well equipped mill

W. T. LANE & BROS., Inc.
Manufacturers, Poughkeepsie, N. Y.

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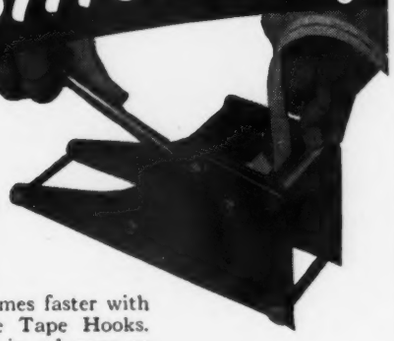
10 TIMES FASTER THAN STITCHING!

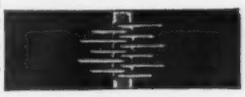
SPINDLE TAPE LACING EQUIPMENT



Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

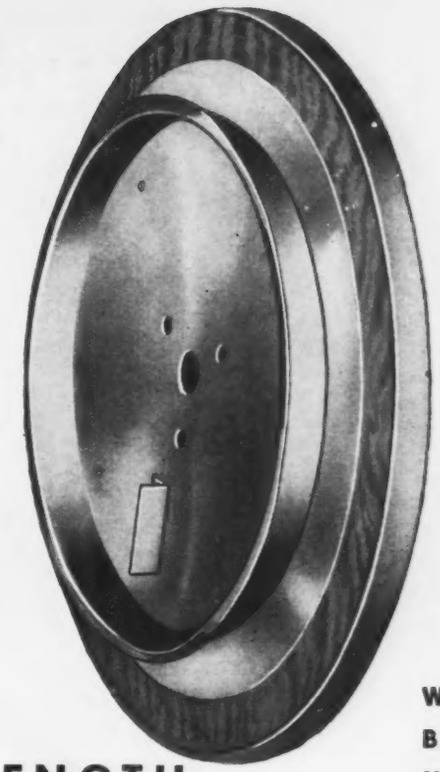
Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT

LOOM BEAM HEADS



WARP BEAM HEADS

STRENGTH
for long service-life

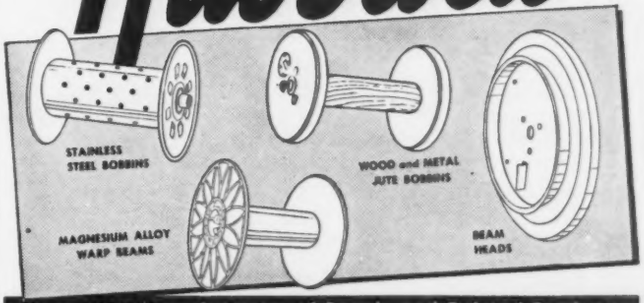
LIGHT WEIGHT
for operating speed

Hubbard Beam Heads provide the two essentials to help keep operating and replacement costs down. Rugged plywood and steel construction, including die-forming of the steel tire, provides a beam head that will stand up under all operating conditions. Forming the tire around the edge of the head prevents beam breakage. Total light weight of plywood and steel construction results in smooth operation.

You are invited to write for complete information on Hubbard Beam Heads and related products.

Hubbard Spool Company
1626 Carroll Avenue, Chicago 12, Illinois

Hubbard



Since 1912 Manufacturers of Spools and Related Products

FROM THE CATALOG OF BARRETT BASIC CHEMICALS

BENZOL

Empirical Formula	C_6H_6
Molecular weight	78.11
Vapor pressure in mm. of mercury @ 20° C	74.66

TOLUOL

Empirical Formula	$C_6H_5CH_3$
Molecular weight	92.13
Evaporation rate @ 45° C (Jolly balance)	4.8 mg. per min/sq. cm.

XYLOL

Empirical Formula	$C_6H_4(CH_3)_2$
Molecular weight	106.16

Water-white coal-tar distillates

FOR THE TEXTILE INDUSTRY

Because of its excellent solvent action on oils, fats, resins, etc., Benzol is used in the textile industry. It is a detergent and degreasing agent for fabrics, particularly in dry cleaning mixtures. It is also a diluent in fabric coating solutions containing nitro-cellulose, a solvent for certain resins, natural rubber and synthetic elastomers, and a preservative for sizing agents such as starch and albumen.

Toluol and xylol have applications in solutions for the coating of fabrics, and are also recommended as cleaning and spot removing compounds.

Other Barrett basic chemicals for the textile industry include:

CRESOL U.S.P.
CRESYLIC ACID
CUMAR*
CYCLOHEXANOL
DIBUTYL PHTHALATE
PYRIDINE

For complete information, phone, wire or write—

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

*Trade-mark Reg. U. S. Pat. Off.

Barrett

ONE OF AMERICA'S GREAT BASIC BUSINESSES

ing, Chattanooga, Tenn., under the management of John H. Straussberger, formerly superintendent of plants of Julius Kayser & Co. in Brooklyn and Hattiesburg, Miss.

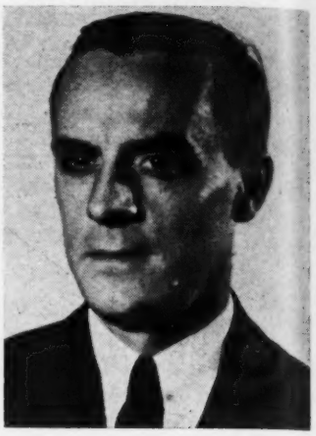
Brown Instrument Co., Philadelphia, has appointed J. W. Weingartner as production-control manager. He has been with this industrial division of Minneapolis-Honeywell Regulator Co. for the last 22 years.

Pennsylvania Salt Mfg. Co., Philadelphia, has appointed Sydney L. W. Lea, recently released from active duty as an Army captain, as manager of advertising. At the same time Anne Hurlbrink was named assistant advertising manager. Mr. Lea succeeds Mrs. Ethel Serfas Klingman, who is retiring from business. He was assistant to George B. Beitzel, now vice president in charge of sales, before joining the Army in 1940.

Farrel-Birmingham Co., Inc., Ansonia, Conn., has appointed William R. Bowen manager of the company's branch sales office at Akron, Ohio. He succeeds Harry D. Temporal, who will manage the Farrel-Birmingham office in Chicago. Mr. Bowen returns from 3½ years in the Navy.

Manufacturers Research Laboratories, Inc., Jersey City, N. J., has appointed J. J. Press as director of textile research of the Manufacturers Research Laboratories, Inc., Jersey City, N. J. He was assistant research director at the research laboratory of the Virginia-Carolina Chemical Corp. and previously had been in charge of research on textiles, proteins, and synthetic fibers at the Ford Motor Co.

C. R. HARRIS, formerly an executive of Carrier Corp., who has been appointed vice president and general manager of Pneumafil Corp., New York. This company has just been organized to produce and sell in the U. S. an air-actuated system developed in Switzerland designed to collect broken threads as they occur in the spinning process.



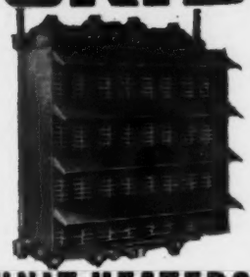
GEORGE L. ABBOTT, who now heads the new corporation to be known as the Warren Belting Co., Inc., of Worcester, Mass., as president, treasurer, and general manager. That company has taken over the former company of similar name. Mr. Abbott resigned from Graton & Knight Co., with which he was vice-president and general sales manager since 1939, to take over his new duties. Other officers are Forrest E. Alexander, clerk and assistant treasurer; and Mr. Abbott, Winfred A. Place, and William H. Warren, directors. Mr. Place and Mr. Warren were president and treasurer, respectively, of the old Warren Belting Co., and are remaining in advisory capacities during the transition period.

Paisley Products, Inc., Chicago, has appointed J. F. (Jack) Sequin as representative in Texas and Oklahoma. His headquarters will be at 1410 Main St., Dallas.

Monsanto Chemical Co., St. Louis, has appointed Dr. Ralph Nickerson, authority on cellulose, to the textile research department of its Merrimac Division at Everett, Mass. Dr. Nickerson was formerly associated with Firestone Tire & Rubber Co., Ecusta Edwards Paper Co., Ludlow Mfg. Sales Co., and with the Mellon Institute as a senior research fellow. Monsanto has promoted Dr. Donald H. Powers, director of textile chemicals sales development in its Merrimac Division, Everett, Mass., to be director of the division's Textile Chemical Department. He is now in charge of sales, sales promotion, and research activities of the department. Mon-

ATMOSPHERIC CONDITIONS *LIKE THIS* DO NOT RETARD *OR* PLUG UP

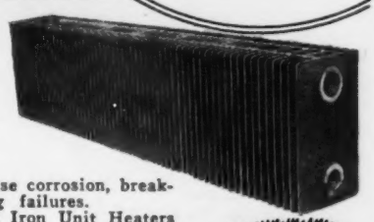
GRID



HERE'S WHY UNIT HEATERS

* One piece construction heating sections (patented) of high test cast iron that withstand steam pressure up to 250 lbs.
* No soldered, brazed, welded or expanded connections to become loose or develop leaks.
* No electrolysis to cause corrosion, breakdowns, leaks, or heating failures.

GRID High Test Cast Iron Unit Heaters are engineered especially to overcome atmospheric conditions always present in textile mills. Many have been in use for 15 years without maintenance expense. Capacity tables and complete details upon request.



SEND! for new booklet that tells why corrosion destroys unit heaters — free upon request.

HIGH TEST *Cast Iron* HEATING SECTIONS

D. J. MURRAY MANUFACTURING CO. WAUSAU, WISCONSIN

TIME-TESTED TIPS FOR MILL MAINTENANCE MEN

Easy Way to Overhaul Or Rebuild Motors

Many mills using Oakite cleaning techniques before rebuilding or reconditioning motors will tell you that the Oakite way does a thorough job . . . saves time . . . simplifies matters. For example, when stripping varnish from burned-out armatures, a good bet is to soak coils in a solution of Oakite Test X, or other heavy-duty Oakite material. After soaking and rinsing, you'll find that varnish, grease, oil, dirt are completely removed. You'll be glad to find, too, that the adhesive properties of insulating tape are so weakened that stripping is simplified. Tedious knife slitting and scraping eliminated.

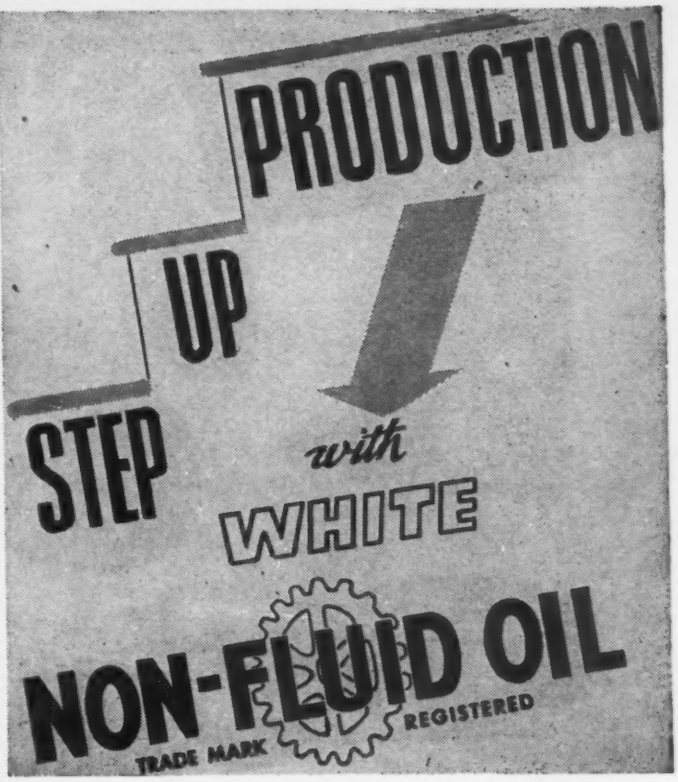
Helpful literature, in-shop assistance on cleaning motors before salvaging; paint stripping motor housings and many other textile maintenance tasks freely available. Write for complimentary cleaning digest!

OAKITE PRODUCTS, INC., 42 Thames St., NEW YORK 6, N. Y.

Technical Service Representatives Conveniently Located in All Principal Cities of the United States and Canada

OAKITE *Specialized* CLEANING

MATERIALS · METHODS · SERVICE · FOR EVERY CLEANING REQUIREMENT



Prevention of blackened yarn; fewer broken ends; increased output per frame — are the important advantages obtained when WHITE NON-FLUID OIL is used for the lubrication of *twister rings*. Hence, increased production of cleaner, better quality yarn.

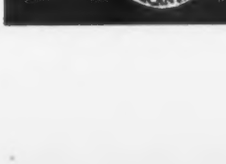
WHITE NON-FLUID OILS were the first scientifically made twister ring lubricants and last many times longer so need less frequent application than other forms of lubricant.

Write today for special bulletin 55-A on Twister Ring lubrication and free testing sample.

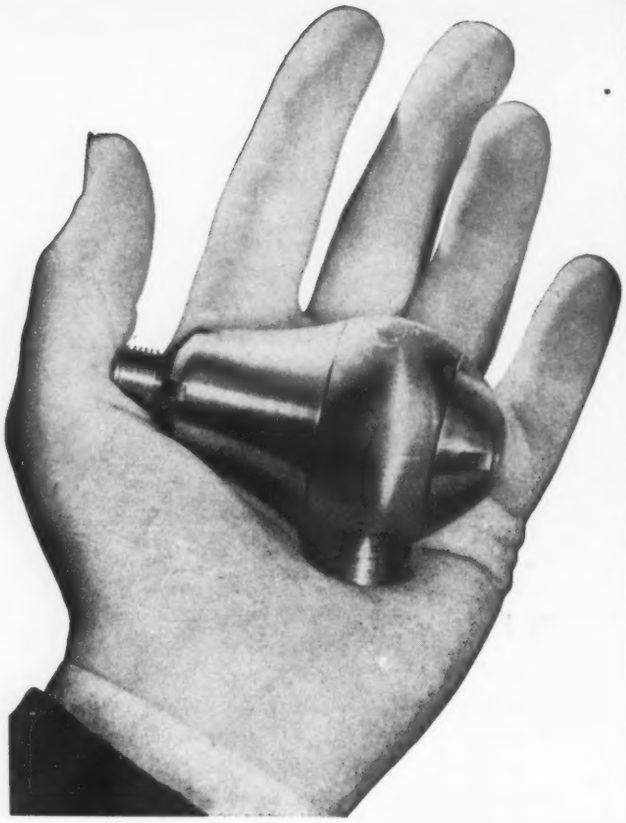
Southern District Manager
FALLS L. THOMASON, Charlotte, N. C.

WAREHOUSES:
Charlotte, N. C. — Greenville, S. C. — Atlanta, Ga. — Providence, R. I.
Detroit, Mich. — Chicago, Ill. — St. Louis, Mo.

WORKS: Newark, N. J.



NEW YORK & NEW JERSEY LUBRICANT CO.
292 MADISON AVENUE, NEW YORK 17, N.Y



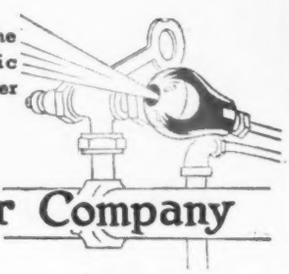
Parks Turbomatic Atomizer

AUTOMATIC - SELF CLEANING

IT "LEAKS" in just one place; leaks where it is supposed to; where atomizing is being done, where its vapor is being made. Can't and doesn't leak anywhere else.

Atomizers that leak in places not easily found; places one wouldn't be looking for, fritter away compressed air. They are expensive. The TURBOMATIC (the atomizer with the diaphragm) is efficient. Stays so.

No piping changes. The self-cleaning Turbomatic interchangeable with earlier and other models.



Parks-Cramer Company

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

santo has also promoted Sam R. Clement, formerly assistant general branch manager of its Birmingham sales district, to be assistant general manager of sales, Phosphate Division at St. Louis.

E. I. du Pont de Nemours & Co., Wilmington, Del., has appointed Robert E. Barnwell, Jr., as New York district sales manager of the Acetate Division of the Rayon Department. Dr. Edward F. Wesp, assistant director of viscose-rayon research at the Spruance plant in Richmond, Va., has been appointed technical superintendent of the Yerkes rayon plant at Buffalo, N. Y. He will be succeeded at Richmond by Dr. Emerson A. Tippetts.

Dyestuffs Division, E. I. du Pont de Nemours & Co., Wilmington, Del., has appointed Ambrose R. Chantler, who has been director of domestic dyestuffs sales for the Du Pont company since 1929, to the new position of general director of sales of the dyestuffs division. He will be succeeded as director of domestic dyestuffs sales by Eric J. Monaghan, who has been assistant director since 1934.

Plastics Department of E. I. du Pont De Nemours & Co., Wilmington, Del., has appointed Calvin R. MacBride as assistant manager of the products division. He will transfer his headquarters from the plant at Arlington, N. J., to the product division's offices in the Empire State Building, New York.

FRANK L. ROSS, who as vice president in charge of all Eastern activities of the Hyster Co., Portland Ore., will be in charge of the new Danville, Ill., plant of that company. Full production will be reached this fall when both the 2,000- and 4,000-lb. capacity Hyster trucks will be manufactured at Danville.

Eugene Szepesi, textile engineer, has opened an office at Room 1218 of the Empire State Building, New York for the resumption of his consulting service to the textile industry on planning, cost determination, and production control.

Benjamin Electric Mfg. Co., Des Plaines, Ill., has opened its new product development and testing laboratory. It cost approximately $100,000 and was dedicated in June on the occasion of the company's 45th anniversary celebration.

Ditzler Color Division of Pittsburgh Plate Glass Co., Pittsburgh, Pa., has appointed

NEW YORK & NEW JERSEY LUBRICANT CO., New York, has formed a 25-Year-Club as a feature of the current celebration of the fiftieth anniversary of the company itself. Grouped from left to right around S. Vollman, assistant treasurer (40 years service) are the charter members who officiated at the formation proceedings: J. F. Donlin, auditor, 29 years; Joseph H. Bennis, president, 50 years; I. L. Hall, secretary, 40 years; H. Clemens, purchasing agent and traffic manager, 38 years; F. J. Barnes, vice president and treasurer, 40 years; P. Kaiser, export department, 40 years. Other members of the 25-Year-Club include these employees of the sales-department field staff: L. L. Hoyt, Boston, 31 years; J. H. Orvis, Syracuse, 28 years; F. Helmich, New York, 28 years; F. L. Thomason, Southern district manager, 26 years; T. W. Feeley, Newark, N. J., 25 years. Miss M. Leonard, a record clerk in the New York sales department is a member with 27 years service.

WHEN IS ONE MULE 13 TIMES Better?

WHEN IT'S A JOHNSON AND BASSETT MULE, WHICH HAS 13 ADVANTAGES OVER RING SPINNING FRAMES AS FOLLOWS: **1.** Up to 50% saving in labor. **2.** Up to 65% saving in H.P. per equal number of spindles. **3.** Up to 50% saving in floor space per equal number of spindles. **4.** Up to 67% saving in investment per comparable capacity. **5.** The J & B Mule will handle a much coarser roving than a frame, thereby increasing production at the card by 15% to 20%. **6.** The J & B Mule produces a true woolen yarn — superior in strength, elasticity, loftiness, roundness and uniformity of size and twist to that produced by frame spinning. **7.** It permits inspection of the thread. **8.** It will successfully spin short staple roving which will not hold together on a frame. **9.** Spindle for spindle, it will produce as much yarn as a frame. **10.** Its cost of upkeep is exceptionally low. **11.** The J & B filling package does not require rewinding for an automatic loom. **12.** Changes for spinning different types of yarn on the J & B Mule are easily and quickly made. **13.** Mule bobbins cost less than frame bobbins.

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- A styling staff well grounded in textile production problems yet keenly aware of fashion trends.
- Cooperation when desired in problems of taxation and general management.

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NEWS ABOUT SUPPLIERS

V. G. Schwenke as service manager. He has been with the division for 10 years, prior to which he was associated for eleven years with the Ford Motor Co. and Briggs Mfg. Co. in their automotive paint departments.

Dicalite Co., Chicago, has transferred P. M. Rapier, for the last several years in charge of its Atlanta office to Los Angeles where he will be connected with the research and service laboratories. Atlanta office will now be under the management of E. V. Grossin.

W. D. Dodenhoff Co., Inc., Greenville, S. C. has appointed John G. B. Ellison as vice president and director. Mr. Ellison has returned recently after several years of service in the Army.

Onyx Oil & Chemical Co., Jersey City, N. J., has reappointed Major Clifford R. Smith, Onyx Southern sales representative before his entry into military service, to resume that office. He has headquarters in Atlanta at 231 Healey Building, and will represent Onyx in Alabama, Georgia, Tennessee, Florida, and Mississippi.

American Cyanamid Co., New York, has consolidated the business of the American Cyanamid & Chemical Corp., a subsidiary, with that of the parent company. The latter's business will be operated as the Industrial Chemicals Division of American Cyanamid Co.

Walter Kidde & Co., Inc., Belleville, N. J. have elected to their board of directors C. Thurston Woodford, a vice president and director of McCampbell & Co., textile commission house, of 40 Worth Street, New York, N. Y. He is also a vice president and director of Edna Mills Corp., Reidsville, N. C. He has been in textiles for 28 years.

General Electric Co., Pittsfield, Mass., has appointed John C. Morris as superintendent of manufacturing of the Resin and Insulation Materials Divisions. He has been assistant superintendent for the past year, and with the company for 18 years.

The Lincoln Electric Co., Cleveland, Ohio, has appointed Gordon Appleby to the welding engineering staff of the concern's Philadelphia branch office. Terril S. Hoffman has been assigned as welding engineer in the St. Louis area. E. James Langhurst was named welding engineer in the Chicago territory.

The B. F. Goodrich Co., Akron, Ohio, has placed C. A. (Chet) Dwyer in charge of the sale of industrial and solid tires.

Westinghouse Electric Corp., Pittsburgh, Pa., has appointed C. C. Smith as special headquarters electronics sales representative assigned to the Southeastern district, with offices in Atlanta. His territory will include all of North and South Carolina, Georgia, Florida, Alabama and portions of Tennessee, Mississippi, and Louisiana.

Westinghouse Electric International Co., New York, has elected William E. Knox as president and general manager. He first served as a sales clerk with the company 24 years ago. He succeeds John W. White, who has resigned to become director general of Industria Electrica de Mexico, one of Mexico's largest privately owned enterprises.

SKF Industries, Inc., Philadelphia.—William L. Batt, president of SKF Industries, Inc., has been made an honorary companion of the Order of St. Michael and St. George by King George VI in recognition for his wartime work as a member of the Combined Production & Resources Board, composed of representatives of the U. S., Canada, and Great Britain.

HAROLD R. DINGES, who has been appointed by the Mathieson Alkali Works, New York, to be district sales manager for a newly-defined sales area to be serviced from Charlotte, N. C. O. J. Theobald, Jr., has been appointed to assist Mr. Dinges who will supervise company sales activities in Virginia, North and South Carolina, and parts of West Virginia and Tennessee. Mr. Dinges joined the company in 1941.

The "added ingredient"

Dura Beau
Reg. U. S. A. & Canada

FINISHES

To catch a customer's eye is one thing . . . but to hold the interest of discerning women, and to bring that interest to the buying point, is far more important. To accomplish this, the loveliest of garments and hose should have an "extra something" . . . an "added ingredient" to increase their importance as worthwhile purchases. Dura Beau finishes, "tailored to fit the fibre and fabric" add that final touch, bring new loveliness to fine raiment . . . Dura Beau's added beauty *lasts longer*, too.

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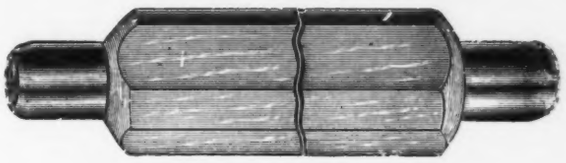

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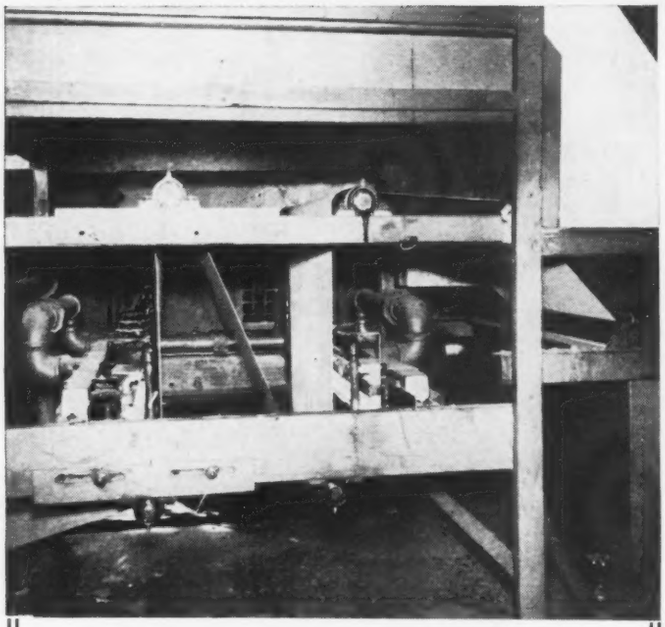

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NEWS ABOUT *Mills*

Cotton Mill News

American Yarn & Processing Co., Mount Holly, N. C,. expects to spend approximately $815,000 for construction and mill improvement this year and next.

Asheville, N. C.—One of three buildings purchased by W. D. Hamm, of Greenville, N. C., will be converted into a weaving mill.

Balfour Mills, Inc., Balfour, N. C., has been purchased by International Cellucotton Products Co., Chicago, Ill., in a transaction involving approximately $3,000,000, and will be converted to the manufacture of gauze. Operations will continue with the same management.

Carr Mfg. Co., Bristol, R. I., has received CPA authority to erect a one-story building which will house $100,000 worth of rubber-covering machinery.

Dottie Lou Mills, Statesville, N. C., has been sold to Statesville Associates for about $125,000. Mill makes coarse yarns.

Drayton Mills., Inc., Spartanburg, S. C., plans a long-range renovation program for its weave room, which will include an air-conditioning system, a new lighting system, a new slasher room, additional machinery, and the replacement of nearly all looms now in operation. An order has been placed for 240 additional looms.

Dundee Mills, Inc., Griffin, Ga., has let contract to Newton Coal & Lumber Co., Griffin, for a $65,000, one-story bleachery addition. J. E. Sirrine & Co., Greenville, S. C., are engineers.

Fairmont Mills, Fairmont, S. C., has been sold by Union-Buffalo Mills Co., to Abraham Sultan, New York, N. Y., and W. J. Jones, Shelby, N. C. The price paid is reported to be over $600,000. Mr. Sultan, now treasurer of Fairmont, is a member of Joseph Sultan & Sons, Inc., a textile brokerage concern; and Mr. Jones, now president, operates a handkerchief plant in Blacksburg, S. C.

L. W. Guild, Inc., Boston, Mass., has bought an old plant, which was formerly a cotton mill, from Raytheon Mfg. Co., Northbridge, Mass., for $67,500. The purchaser plans to make fabrics from fine cotton and blends of cotton, spun rayon, and wool. About 200 workers will be employed.

Hayes Cotton Mill Co., Lenoir, N. C., formerly Steele Cotton Mill, is installing necessary equipment to make sewing thread.

Lane Cotton Mills Co., New Orleans, La., has awarded contract to George L. Glover Co., Inc., for construction of a warehouse addition.

Langley Mfg. Co., Langley, S. C., was destroyed by fire on July 4. Several other mills lost materials which were stored in a warehouse which burned. Loss was estimated over $1,000,000.

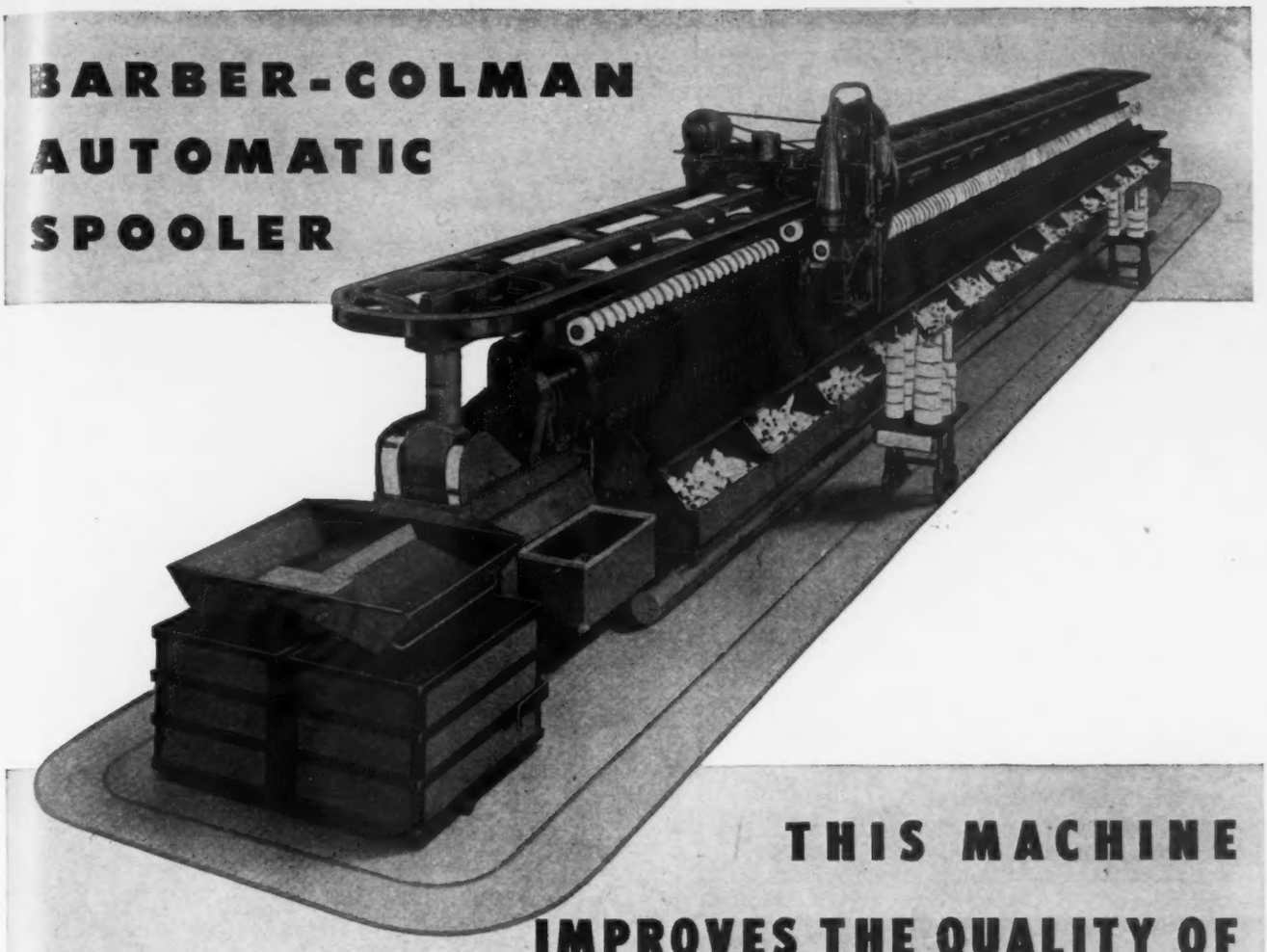
Latacunga, Ecuador—Over $1,500,000 worth of American textile machinery has been bought for a poplin-manufacturing plant in this city. Delivery is expected by December of this year.

Nashua Mfg. Co., Nashua, N. H., will continue operations without interruption when it is sold to a new company organized to take over all assets in Nashua, N. H., Monmouth and Lewiston, Me., and Cordova, Ala. Textron, Inc., which now controls most of the stock, will make an investment of about $2,000,000 but will not have controlling interest. Royal Little, president of Textron, Inc., will head the new company.

National Automotive Fibers, Inc., Los Angeles, Cal., has received CPA approval for construction of a $203,500 quonset-type mill building.

Opelika Textile Mills, Inc., Opelika, Ala., plans a $1,077,000 expansion program which will add 130,000 sq. ft. of manufacturing space to the plant and raise employment from 550

BARBER-COLMAN AUTOMATIC SPOOLER



THIS MACHINE IMPROVES THE QUALITY OF EVERY FOLLOWING STEP IN CLOTH PRODUCTION

ANY mill man who wants to do something about improving efficiency of operations and quality of his product will be well advised to investigate the advantages of Barber-Colman Automatic Spoolers. These machines not only are a better means for winding yarn from bobbins onto warper cheeses, but they also produce substantial improvements in following operations. Experience in many mills shows that Barber-Colman Automatic Spoolers deliver a better package to the warper, and this results in better beams to the slashers, better loom beams to the weave shed, and better cloth to the finishers. Efficiency is improved because there are less warper stops, more economical slashing, fewer loom stops, and less seconds. The machine gives very little trouble, requires few service calls, and delivers a uniform package steadily with a minimum of down time. *Ask your Barber-Colman Representative for complete information.*

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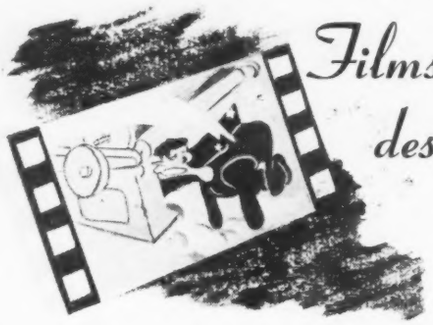

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workers to about 1,200. Batson-Cook Construction Co. has the construction contract.

Orr Cotton Mills, Anderson, S. C., has been sold to M. Lowenstein & Sons, Inc., New York, N. Y. The latter had previously acquired a substantial amount of the company's stock. The recent transaction involved a sum of $5,259,600.

Pepperell Mfg. Co., Fall River, Mass., will build a $50,000, one-story cafeteria and clinic for employees.

Piedmont Cotton Mills, Egan, Ga., has resumed full production. The company had a short time ago given notice that it would suspend operations until CPA restrictions permitted profitable operation.

Raeford Mills, Inc., Raeford, N. C., has been purchased by Troy Whitehead Machinery Co., Charlotte, N. C., for about $700,000. The 15,000 spindle plant produces coarse carded yarns.

Reeves Bros., Inc., New York, N. Y., plans to spend over $2,000,000 for new machinery and equipment to be installed in its southern mill.

Rheestone Thread Corp., Warren, R. I., is proceeding with modernization and conversion of its recently acquired building. Cost will be about $320,000. Central Engineering & Construction Co., Pawtucket, R. I., has contract.

San Jose Mayorazgo, a cotton yarn and fabric mill near Pueblo, Mexico, recently suffered flood damage estimated at $300,000 (American). Machinery and equipment were so damaged that rehabilitation will require two to three months.

Saxon Mills, Spartanburg, S. C., is well advanced on a program to convert to the manufacture of combed yarn. The mill has been making print cloth. All weave-room facilities will be replaced with spinning equipment, and the mill will eventually operate 30,000 spindles. The Chesnee division in Chesnee, S. C., which has been making carded yarn, will change to production of combed yarn and fabrics.

Southern Weaving Co., Greenville, S. C., has been reported to have been bought by J. W. Burnett, president.

Springs Cotton Mills has begun installation of air-conditioning equipment in the two new spinning rooms of the Lancaster, S. C., plant and in the spinning room of the Eureka plant in Chester, S. C. The new finishing plant, now under construction at Grace's Station, near Lancaster, will be ready next summer. The 1000 x 400 ft. main building will house bleaching and dyeing machines. The power plant will generate 15,000 kw., in addition to furnishing steam necessary for processing.

Wabasso Cotton Co., Ltd., Three Rivers, Que., which recently let contract for a 226 x 171 ft., two-story weaving mill to Bellefville & Cheney, Ltd., Three Rivers, will, in addition, build a 510 x 161 ft., one-story spinning mill. Work on the latter will start next spring. The weaving mill is expected to open by January.

Whitney Mills, Whitney, S. C., has been closed since Jan. 1, and machinery is being shipped to South America.

Wool Mill News

Australia—A giant company is reported to be in the process of organization, eventually to operate 30 woolen mills. The object is to capture markets which were dominated by Japan before the war. Each of the mills will employ 1,500 workers. About 80% of the production capacity will be devoted to woolens and the remaining 20% to worsteds. British, Australian, and Indian promoters are involved.

Belleville Woolen Co., Belleville, R. I., has received CPA approval for construction of a $75,000 building.

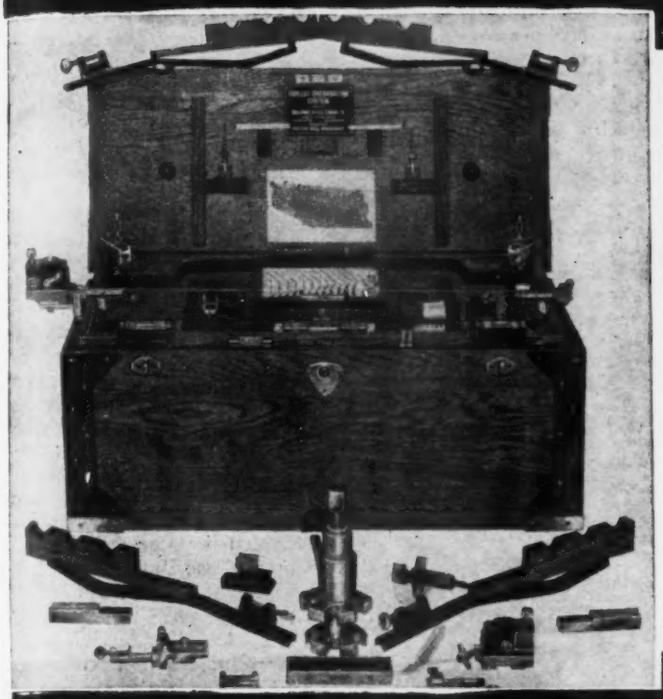
Chatham Mfg. Co., Elkin, N. C., has completed a new building which will provide 125,000 sq. ft. of additional floor space for wool carding and spinning. Twelve cards, along with complementary equipment, will be installed.

A. D. Ellis, Inc., Monson, Mass., has received CPA approval for a $55,000 power plant.

Felt & Textiles of Canada, Ltd., is a new company which plans operation of a plant in the buildings of the old Ogden Point Woolen Mills, Victoria, B. C., closed for a number of years.

Filature Nicolas, Inc., St. Hyacinthe, Que., is a new company

"THE MODERN TREASURE CHEST"



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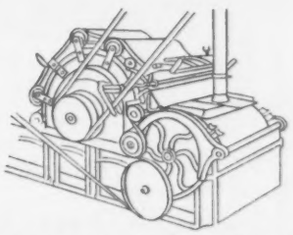

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Textile Industry

headed by G. Nicolas, formerly managing director of Filature Alsacienne, Mulhouse, France. A 142 x 155 ft., windowless, one-story worsted-spinning plant, which will produce worsted yarns from dry-combed wool, is being erected.

Glendale Weaving Co., Glendale, R. I. recently formed, has started production on commission weaving of women's and men's woolen fabrics. Partners are Arthur C. Philipps, Earle Joslin, and Gerard L. Bedford.

Kalyn Mills, Inc., West Warwick, R. I., recently formed to manufacture fine woolen and worsted fabrics, has taken space in No. 4 building of Crompton Co. Machinery is being installed. B. M. Kaufman, New York, heads the company.

Lincoln Warping Co., Pawtucket, R. I., has purchased a two-story frame building in Pawtucket from Narragansett Coated Paper Corp. and will occupy it as soon as renovation is completed. The building contains 25,000 sq. ft. of floor space.

Lymansville Co., Providence, R. I., which plans to build a 50 x 65 ft., three-story addition, has already purchased machinery valued at $250,000 and will install it in the new building.

Murphy Textile Co., Masonville, R. I., recently began commission weaving of fancy woolen fabrics. Charles H. Murphy is proprietor.

Slatersville, R. I.—Walter J. Cross, formerly with **Meade Textile Co.**, Forestdale, R. I., recently formed his own plant for commission weaving of woolen and worsted fabrics.

M. T. Stevens & Sons, North Andower, Mass., plans a woolen mill in Dublin, Ga., for which a site has been purchased. Contract has been awarded to C. M. Guest & Sons Co., Anderson, S. C. Machinery has been ordered.

Talbot Wool Combing Co., Norton, Mass., has awarded contract to Central Engineering & Construction Co., Pawtucket, R. I., for a $125,000, 80 x 100 ft., two-story addition.

Van Kuyper Woolen Mills, Inc., Philadelphia, Pa., has begun construction of two additions, one two stories high and the other three stories. Cost is about $400,000.

Rayon & Silk Mill News

Altoona Rayon Weaving Mill, Altoona, Pa., plans a 115 x 155 ft., one-story addition which, reportedly, will cost over $100,000, with equipment. Shollar & Shollar, Altoona, are architects.

Burlington Mills Corp. is buying controlling stock interest in Cramerton Mills, Inc., Cramerton, S. C., in a transaction involving several million dollars. No changes in management or operation are contemplated. Cramerton Mills operates two plants with total of 58,000 spindles and 960 looms and about 2,000 employees.

Companhia Nitro Quimica Brasileira, S. A., is under construction by Oscar Kohorn & Co., near Sao Paulo. It will have capacity of 20,000,000 lb. and will start production early in 1947. A 5,000,000 lb. staple-fiber plant has been contracted for.

E. I. du Pont de Nemours & Co., has placed an order for 2,600 tons of structural steel for its projected Chattanooga, Tenn., nylon yarn plant. Construction of the $25,000,000 plant has not yet been authorized by the company's executive committee, but the steel order will save time when such a move is made.

Fabrica Victoria de Puente Alto, S. A., Valparaiso, Chile, with 5,000,000 lb. capacity is being erected by Oscar Kohorn & Co.

Fullerton Textiles, Inc., Fullerton, Pa., will call for bids soon for several mill additions. Cost reported over $400,000, with equipment.

Glendale Spinning Mills, Ltd., Hamilton, Ont., plans a new spinning plant for rayon staple, blended, and worsted yarns.

Harris Bros. Silk Co., Paterson, N. J., has been purchased for $467,000 by John Rosenstein of Paterson Silk Hosiery Exchange, Paterson.

Hess, Goldsmith & Co., Inc., has completed a new addition at its Atwater division in Plymouth, Pa. New equipment and air-conditioning have been installed at this unit, which is engaged in nylon throwing.

Schwarzenbach Huber & Co., New York, N. Y., plans a new mill at Bethlehem, Pa., which will, according to reports, cost over $350,000, with equipment.

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Cotton yarns, single and ply
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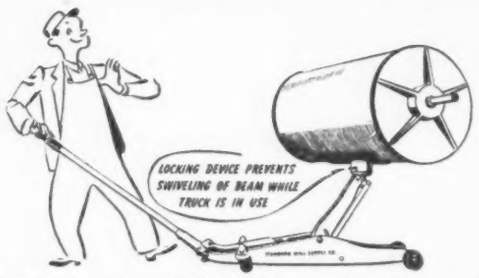

This portable Hydraulic Beam Truck is equipped with revolving cradle and will accommodate beams of any diameter and length up to 90" between heads. Ruggedly built and engineered for easy and exact positioning of beams weighing up to 4,000 lbs.

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For Maintained Shrinkage—
Perfect Finish—Long Life

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HUYCK SANFORIZER and Palmer Blankets are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the coarsest denim, there is a special Huyck blanket to meet your specific needs.

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F. C. HUYCK & SONS
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Albany, New York

NEWS ABOUT MILLS

Rayon Pernana S. A., constructed in Pern by Oscar Kohorn & Co., New York, is going into production this month with capacity of 2,000,000 lb. of viscose yarn.

Spiegel, Inc., a Chicago, Ill., mail-order house, is reported negotiating for the purchase of a rayon mill to cost about $675,000. Neither the name nor location of the mill has been revealed.

Textron, Inc., has opened its Turner Falls, Mass., plant as a unit of the Easthampton, Mass., division. Operations were begun with 120 employees instead of the 85 originally planned.

Tirrell Textile Co., Phillipsburg, N. J., expects to start operations this month. Company plans to employ 150 workers. Matthew V. Tirrell, for many years with Tirrell Bros. Silk Corp., is president.

Knitting Mill News

Artcraft Hosiery Co., Philadelphia, Pa., has taken a long-term lease on a five-story building in Darby, Pa. The building has 130,000 sq. ft. of floor space. It has also purchased Blenheim Hosiery Mill, Blackwood, N. J.

Barbet Mills, Lexington, N. C., which at present produces cotton yarn, has been installing knitting machines and will begin the manufacture of knit cloths. The possibility of setting up a dye plant is being studied.

Bossong Hosiery Mill, Asheboro, N. C., has obtained permit for construction of a $150,000, 180 x 137 ft. addition which will increase production 30 to 35%. Contract has been awarded to W. B. Lamb & Sons.

Brown Knitting Mills, Los Angeles, Cal., has been sold to Jacob Abramovitz.

Burlington Mills Corp., Greensboro, N. C., is establishing a plant in Montreal to manufacture 400-needle seamless nylon hosiery. Burlington Mills Hosiery Co., Ltd., a subsidiary, will operate it.

Carter Underwear Co. and **Cullen Knitting Co.** have leased space in the former Gilbert Mills in Gilbertville, Mass. Both companies plan to move machinery into the building in July.

Chadbourn Hosiery Mills, Charlotte, N. C., plans an expansion program which will involve the expenditure of nearly $2,000,000 and almost double production capacity.

Crown Hosiery Mills, Inc., High Point, N. C., has awarded general contract to R. K. Stewart & Son, High Point, for an addition to its plant.

Georgia Knitting Mills, Atlanta, Ga., has established a plant for men's and women's sweaters. A. Gepner, formerly manager of his father's Gepner Knitting Mills, Birmingham, Ala., heads the new mill.

Globe Knitting Works, Grand Rapids, Mich., plans a branch in Wayland, Mich., to be used as an underwear finishing plant.

Howard Hosiery Mills, Inc., has taken over the mill, machinery, etc., of Howard Hosiery Co., Sinking Springs, Pa.

Howard Hosiery Co., West Lawn, Pa., has been sold to William P. Friedman Co., New York, N. Y.

Hickory, N. C.—A new hosiery mill is being established by Dr. J. W. McKee and W. J. Houchins, with 30 machines in a temporary 30 x 50 ft. building.

Jaclyn Hosiery Mills, Inc., Camden, S. C., has plans nearing completion for a one-story mill.

Kramer Bros., Inc., Philadelphia, Pa., is entering the men's hosiery field with the formation of a new subsidiary, Trimfit Men's Socks, Inc.

Lipton Textile Mills, New York, N. Y., has leased 27,000 sq. ft. of floor space in a Lodi, N. J., building. Equipment from the company's New York and Union City, N. J., plants has been moved in Lodi, where production of knitted fabrics will be continued. The firm is owned in partnership by Charles Lipschitz, David Rosen, Samuel J. Stember, and Robert E. Lee.

Margate Hosiery Mills, Inc., Chattanooga, Tenn.—Stock formerly held by Mercer Reynolds, Sr., Chattanooga, has been acquired by Alfred P. Slaner, vice-president of Chester H. Roth Co., New York. There will be no change in the management policy of the company.

Marlette Knitting Co., Elon College, N. C., recently began

We wish we had an Aladdin's Lamp

We wish we could merely rub an Aladdin's lamp and produce all the knitting machines our customers need. Lacking such a magical servant, we are expanding our facilities to meet the unprecedented demand.

Each month sees an improvement in our production schedule. In the meantime, we greatly appreciate the patient co-operation shown by our manufacturing friends whose immediate needs cannot always be fulfilled.

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Progressive Processors of

NYLON, SILK and RAYON YARNS For the Hosiery and Knitting Trades

QUALITY PRODUCTS FOR OVER FIFTY YEARS

We are equipped with the latest developments in processing machines, assuring continuous production of highest standards of workmanship.

For best results have your yarns processed by

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617 Johnston Bldg.
Charlotte, N. C.

operation and will make 2,000 doz. prs. of hose weekly, when full production is reached.

Mauch Chunk, Pa.—Two full-fashioned hosiery mills will go into operation here shortly. One will be operated by Paul Walck and the other, in West Mauch Chunk, by Clyde R. Houser.

Natona Mills, Wilkes-Barre, Pa., has been organized as a division of Native Lace Works, Inc., Hightstown, N. J. The mill will manufacture knitted fabrics. Alan Bisbee is manager.

Philcord Hosiery Co., Concord, N. C., was incorrectly reported in the March, 1946, issue of TEXTILE WORLD as having been formed to succeed the Penn-Carol Hosiery Mills, of Philadelphia and Concord. Such is not the case, and the latter company is operating as in the past.

Rodney Hosiery Co., Inc., Lewes, Del., has been incorporated with capital of $2,500,000 to operate a mill. John E. McGovern, Lewes, is representative.

Starr Hosiery Mill, Salisbury, N. C., will begin operations with 22 knitting machines and six looping machines, which are expected to be delivered soon. L. W. Faucette will be superintendent.

Stoughton, Mass.—William Cullen, who formerly had charge of knitting at Warren Fabrics, West Warren, Mass., will open a knitting plant here.

Sumter Hosiery Mill, Inc., Sumter, S. C., has been chartered with capital of $200,000. Alex Levine is president.

Tennessee Knitting Mills, Columbia, Tenn., plans an addition to provide 2,200 sq. ft. of floor space to house more machinery, and the entire mill will be air-conditioned.

Toronto, Ont.—E. H. Kinselle, 730 O'Connor Drive, is erecting a $17,000, 100 x 50 ft., one-story knitting mill.

Van Raalte Co., Inc., will erect a building in Bryson City, Tenn., to be used as a mill for making gloves, hosiery, and underwear.

Warlong Glove Mill and **Conover Knitting Co.,** Conover, N. C., have work under way on a $250,000 building to house both concerns, which are operated by A. L. Shuford, Sr., and A. L. Shuford, Jr. Another $250,000 will be spent for machinery.

Dyeing and Finishing Plant News

Athlone Dyeing & Printing Co., Fall River, Mass., recently organized, plans operation of a plant, with M. H. Allen as president.

Cherokee Finishing Co., Gaffney, S. C., has been chartered with capital of $50,000 and will soon begin operation of a plant to screen-print fine decorative materials.

Dean & Shark Co., Inc., Lawrenceburg, Ky., a division of American Yarn & Processing Co., is contemplating expansion of dyeing, finishing, glazing, and winding operations. The company now operates 31,090 sq. ft. of floor space.

M. Eaton & Co. Inc., textile printers, have moved their plant from Erie Basin, Brooklyn, N. Y., to their own building in Hackettstown, N. J. They are making a specialty of lithographic printing processes for use in the decorative linen and cotton field.

Greenville Finishing Co., Greenville, R. I., has work under way on an addition, for which Henry Soule Co., Pawtucket, R. I., has general contract.

Hickory, N. C.—A 40 x 80 ft., two-story hosiery-finishing plant which is being erected for Wade Bowman and Ed. Anderson, is nearly complete.

Kenyon Finishing Co., Lawrence, Mass., has been acquired by Jacob Ziskind. The plant will continue operations. Bernard S. Hillman remains as general manager, and Oscar D. Graichen, formerly with Lockwood Greene Engineers, Inc. will be in charge of plant operations.

L. & C. Processing Co., Maryville, Tenn., is starting operations to dye, board, and finish hosiery.

Standard Bleachery, Carlton Hill, N. J., is installing a continuous-dyeing unit. Installation of an additional Sanforizing unit is pending.

Ware Shoals Bleachery, Ware Shoals, S. C., has under construction a rayon finishing plant.

DYED ACETATE RAYON! *finished with* ARIPEL-FS

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Has Excellent Fastness to Atmospheric Gases

Yes, acetate rayon dyed fabrics treated with double-action ARIPEL-FS are remarkably resistant to the fading action af atmospheric gases as proven by the "Gas Chamber" test.

ARIPEL-FS is also an effective softener and therefore works two ways in a one bath treatment —

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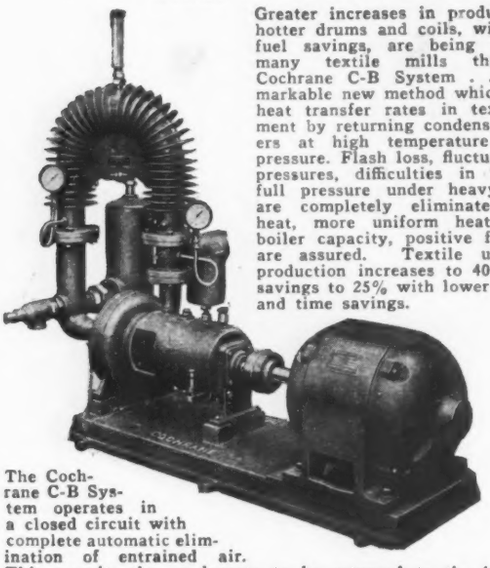
HOTTER DRUMS and COILS with EXTRAORDINARY FUEL SAVINGS

Through New Method of Increasing Heat Transfer Rates



Greater increases in production from hotter drums and coils, with amazing fuel savings, are being effected in many textile mills through the Cochrane C-B System . . . the remarkable new method which increases heat transfer rates in textile equipment by returning condensate to boilers at high temperature and high pressure. Flash loss, fluctuating boiler pressures, difficulties in maintaining full pressure under heavy demands, are completely eliminated. Faster heat, more uniform heat, increased boiler capacity, positive fuel savings are assured. Textile users report production increases to 40% and fuel savings to 25% with lower labor costs and time savings.

Write for Publication No. 3250.

The Cochrane C-B System operates in a closed circuit with complete automatic elimination of entrained air. This permits the condensate to be returned to the boiler at practically the same temperature and pressure as when it left.

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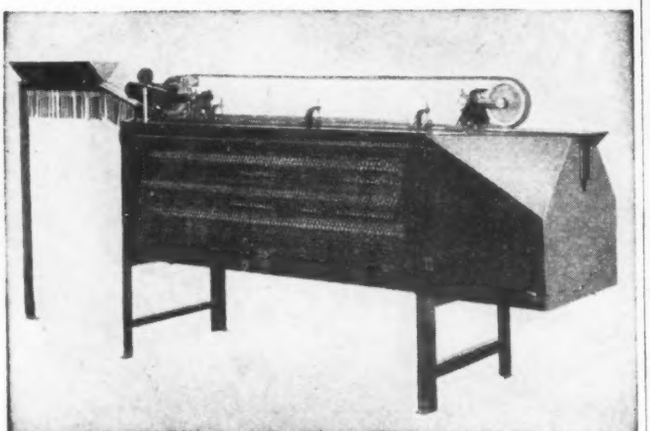
C-B SYSTEM

CONDENSATE RETURNED TO BOILERS AT HIGH PRESSURE AND HIGH TEMPERATURE



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RAYON YARNS

The **Terrell Machine Co.,** *Inc.*

CHARLOTTE, N. C.

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NEWS ABOUT Men

W. C. Bradley who founded the Eagle & Phenix Mill, Phenix City, Ala., when he was a young man celebrated his 83d birthday at his desk at the plant. He began his real business career by forming W. C. Bradley & Co., which today includes Eagle & Phenix Mill, Columbia Mfg. Co., a bank and trust company, and other enterprises.

Malcolm E. Campbell, dean of the School of Textiles at N. C. State College, Raleigh, N. C., was elected president of the National Council of Textile School Deans at the organization's recent semi-annual conference at Princeton University.

John T. Brady has been elected president of Waucantuck Mills, Uxbridge, Mass., of which he had been treasurer and general manager.

J. Milton Brindley, formerly with Grosvernordale Co., Grosvernordale, Conn., is now vice-president of Mills, Inc., Providence, R. I.

Hans A. Molterhodd has become vice-president and general manager of Newburgh Moire Co., New York, N. Y.

Burnet Valentine has been elected vice-president of Oneida Bleachery, Inc., New York Mills, N. Y. He is also vice-president of A. D. Juilliard & Co., Inc., New York, N. Y.

Gustave Gerstle has been named vice-president of Wilcox Lace Corp., Middletown, Conn., a unit of Native Laces & Textiles, Inc.

C. T. Sutherland will be vice-president and general manager of Madison Throwing Co., Inc., Madison, N. C., recently formed.

Dr. George H. Coleman has been appointed dean of the Institute of Textile Technology, Charlottesville. The appointment signalizes the inauguration of a program of graduate studies in the field of textiles, which was envisioned as one of the basic concepts in the founding of the Institute. Dr. Coleman has been with University of Iowa since 1921.

Harold E. Reed, of Atayac Textile S. A., Mexico, formerly associate editor of TEXTILE WORLD, is now located at Puebla, where the company is building a pilot plant under Mr. Reed's direction.

Martin H. Horchler, formerly vice president, has been named executive vice president of William Whitman Co., New York. **Dudley G. Layman,** treasurer, has been elected a director.

Joseph E. Hoesl has been named executive secretary of the newly organized Braider Group of the Cotton-Textile Institute, New York. Mr. Hoesl has been a member of the institute staff since 1927. During the war he served four years with the Army. The group consists of manufacturers of braided textiles, chiefly shoe and corset laces, ric-rac, etc.

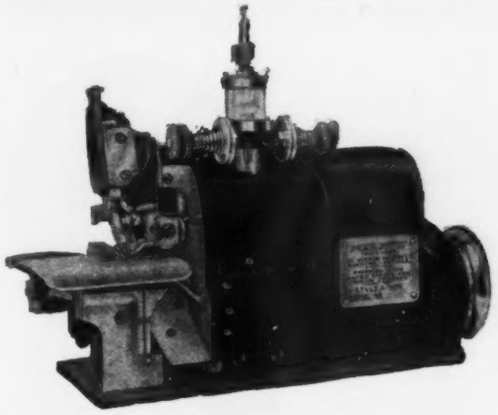
E. W. Dewey has been elected secretary and treasurer of H. E. Bradford Co., Inc., Bennington, Vt., succeeding **Daniel J. Keeler,** recently resigned.

George W. Gibson, after four years in the Navy, has returned to William Skinner & Sons in an executive capacity in the New York office.

J. L. Hall has been appointed plant manager of the new Lumite plant of Chicopee Mfg. Corp., Cornelia, Ga. **Charles Rudolph** is head of research and development. **W. T. Torgeson** is office manager, and **Hillary McAllister** and **Ranzie Taylor,** shift foreman. **Harry H. Purvis** is general manager as previously reported.

Edward F. Wesp, formerly assistant director of rayon research at the Spruance plant in Richmond, Va., of E. I. du Pont de Nemours & Co., is now technical superintendent of that company's Yerkes rayon plant in Buffalo, N. Y. He succeeds **Frank S. Allmuth,** who has been transferred to the Ducilo plant in Buenos Aires.

Paul H. Hill has been appointed general sales manager of the Bigelow-Sanford Carpet Co., New York. He was formerly general sales and advertising



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OVEREDGING, OVERSEAMING AND HEMMING MACHINES

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Up-To-Date Machines
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meet the needs for Speed—
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CRANE Knitting Machines meet the demands of rapidly changing patterns and styles. Their middle name is versatility . . . plus smooth, fast running operation that eliminates expensive stops. Among their exclusive features are patented hardened Wing Burr Wheels and patented Thread Stop Motion. There's many a Knitting Mill in which batteries of Cranes are the mainstay of production.

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The Indians knew it, the Spaniards knew it, the French knew it, and those of English decent of the Southeastern regions have known for 150 years the superior qualities of Tidewater Red Cypress and its resistance to decay. Along the Atlantic Coastal Plain where lie buried cypress trees that grew over 100,000 years ago in the Pleistocene Age, many of which have since been dug up, give mute evidence of the lasting qualities of cypress never equalled for its decay resistance. In more recent years industry has also learned that it licks the difficulties of odor, taste and acid. Tidewater Red Cypress has ALL the qualities you demand for many specific industrial demands.

Tidewater Red Cypress
RED CYPRESS "The Wood Eternal"

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manager for Schick, Inc., Stamford, Conn.

Edward R. Schwarz, professor of textile technology and in charge of the Textile Division of the Massachusetts Institute of Technology, has been named safety officer and chairman of the M. I. T. Safety Council, which is charged with the responsibility for the safety of Institute personnel and property.

Hector Aguero heads a Mexican textile mission consisting of 20 representatives of labor and management to visit the United States for a two months tour of cotton mills. The mission will report to President Avila Camacho on methods for expanding and modernizing the Mexican textile industry.

Per Sjolin and **Karl Ostlund**, representing Svenska Yllekoncernen, A.B., large woolen and worsted manufacturing concern, of Boras, Sweden, are visiting this country to investigate American sources for chemicals and for dyeing, finishing, testing, and boiler-plant equipment. They may be addressed in care of H. J. Kral, 500 Fifth Ave., New York 18.

Dr. Jerry H. Moore, Raleigh, N. C., has been appointed director of the fiber research department of the Railway Supply & Mfg. Co., Cincinnati, Ohio. As cotton technologist with the North Carolina State Agricultural Experimental Station since 1927, Dr. Moore has specialized in the development of fiber qualities and staples.

Prof. William G. Blair of Clemson College Textile School, Clemson, S. C., has returned from a three months leave of absence spent in Arabia, as a technical member (Textiles) of a special diplomatic mission of the United States to the Kingdom of the Yemen.

S. L. Duffett has become manager of the Amsterdam, N. Y., plant of Bigelow-Sanford Carpet Co., and has withdrawn from Barnes Textile Associates, Boston, Mass., of which he was senior partner. He succeeds **James M. Donnelly**, who retired after 38 years with the company.

Armand Bousquet, formerly with Manville Jenckes Corp., is now overseer of weaving at Fabyan Woolen Co., Medway, Mass.

Sidney Springer has resigned as head of the rayon processing

ARTHUR W. CARPENTER, manager of the testing laboratories of The B. F. Goodrich Co., Akron, Ohio, has been elected president of the American Society for Testing Materials. He had been vice-president, and for the last 18 years had been secretary of the society's committee on rubber products. He has also served on the administrative committee on papers and publications, and on the executive committee from 1931 to 1933 and from 1941 to 1943.

division of Rock Hill Printing & Finishing Co., Rock Hill, S. C., and will go into business in Los Angeles, Calif. His address there is 6000 Enest Ave.

E. J. Siegrist is now in charge of the women's hosiery department of Holeproof Hosiery Co., Milwaukee, Wis., and **George Pallister** heads the underwear department. Both had previously been assistant to **Paul W. Baker**, vice-president in charge of manufacturing, who is resigning to join Wayne Knitting Mills in the same capacity.

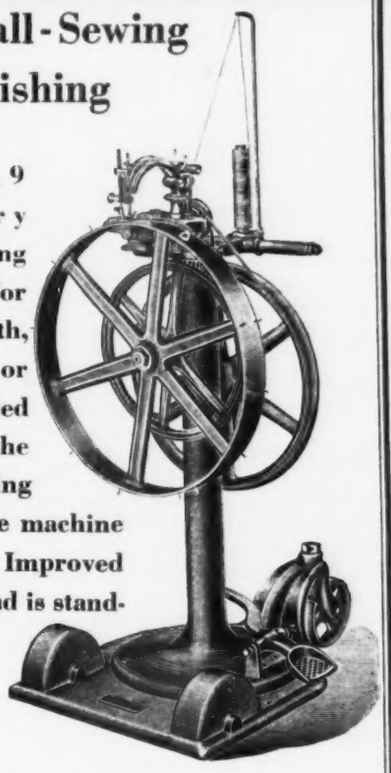
Charles S. Parsons has resigned as general superintendent at Hathaway Mfg. Co., New Bedford, Mass., to become superintendent of the Manchester, N. H., plant of Chicopee Mfg. Corp. **Robert E. Tobin** succeeds him at Hathaway Mfg. Co.

Ralph A. Butland has joined J. P. Stevens & Co., Inc., to coordinate production plans and assist in the solution of manufacturing problems.

John E. Hooke has joined Concordia-Gallia Corp., New York, as salesman for the Modern Throwing Co. Division. He will be in charge of all sales of throwing of silk and synthetic yarns for the hosiery, weaving, knitting, lace, and other industries.

Walter Martin, of Wilson & Co., Chicago, has been elected president of Wool Pullers Coun-

A Jack-of-all-Sewing For Finishing



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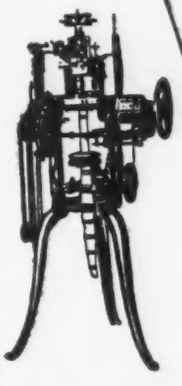
BRINTON Circular Knitting Machines keep quality high—increase production—lessen shut-downs—and reduce overhead. They keep on performing day after day—with a minimum of attention. That's why you'll find Brinton's in the largest mills, where accurate and scientific records are kept to tabulate the performance of every unit. • We have been making Brinton's for over fifty years, and will be happy to figure with you on your immediate requirements.

Your inquiry will bring full particulars.



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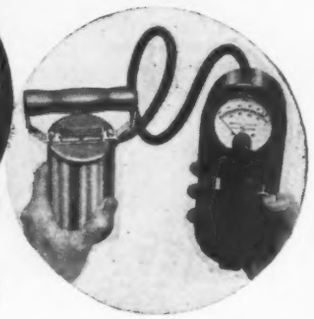
EASY TO USE
NO POINTS TO BREAK OR MAR.
ACCURATE DOWN TO 0%



3 VERSATILE MODELS...

L-2, Flat Surface Type: for smooth surfaced materials.

K-2, Irregular Surface Type: specially designed for rough or smooth materials of any contour.

V-2, Thin Material Type: for thin, smooth surfaced, flat materials.

Scientific calibration, based on standard method for your trade, supplied with each instrument.

MANY APPLICATIONS — Moisture Register is based on principle of high frequency power absorption. All models have wide field of adaptability throughout all industries — as to materials, methods of use and range of moisture content. Special calibrations for specific needs supplied at nominal cost.

WRITE TODAY for complete information, specifying type of material and range of moisture content to be tested.

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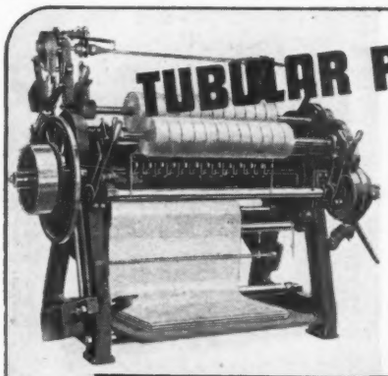
ELECTRONIC MOISTURE REGISTER FOR TEXTILES



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CAMACHINE 24-10

slits and winds two sets of rolls, widths from ½" up from one length of RAYON TUBING at speeds up to 175 f.p.m.

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For
WEAVERS-KNITTERS

MONTGOMERY
WINDSOR LOCKS, CONN.
Designers and Spinners of Novelty Yarns

NEWS ABOUT MEN

cil of America. Vice presidents are **John F. Horstman**, of I. J. Horstman & Sons, and **Herbert Brodsky**, of Hymann Brodsky & Sons Co. Secretary is **A. M. Fishman** of Morris Fishman & Sons, and treasurer, **Leon Obus**, of Jacob H. Brodsky & Sons.

El Herron of the industrial relations department of the Owens Illinois Glass Co., Toledo, Ohio, has resigned to accept the place of industrial relations director of the Glass Fibers, Inc.

Morris Plotkin, managing director of Elastic Webbing Party, Ltd., Melbourne, Australia, is in this country to buy yarns, rubber-covering equipment, looms, and other materials and equipment. He will also visit England and return to Australia by way of the United States. During his stay in New York, he will be at the Park Central Hotel.

James S. Campbell has been appointed director of engineering and maintenance of Verney Corp., Boston, Mass. He had previously been plant engineer for Ponemah Mills, Taftville, Conn.

W. T. Wood, plant manager of the acetate rayon plant at Waynesboro, Va., of E. I. du Pont de Nemours & Co., has been named director of production. He is succeeded in his former position by **M. G. Jones**, who had been assistant plant manager. **Clark C. Kirby** has been released from the Army and returns to his former position as assistant area supervisor in the throwing department at the Waynesboro plant.

William J. Thornley has been appointed assistant treasurer of Uxbridge Worsted Co., Uxbridge, Mass. Other appointments were **Harold E. Smyth**, assistant general manager, and **Albert E. Otto**, superintendent, Uxbridge plant.

Robert I. Peters, superintendent of chemical development at the Amsterdam, N. Y., mill of Bigelow-Sanford Carpet Co., has been appointed quality control director. He will be a member of the staff of **Elliott I. Peterson**, vice-president in charge of production.

D. Alan Page was recently appointed general manager of Mercury Mills, Ltd., Hamilton, Ont. He will be responsible for coordinating all manufacturing activities.

Royal E. Hackett has been appointed manager of the new Warwick, R. I., plant of Textron, Inc.

C. A. Jolly, formerly with Hickory Spinning Co., Hickory, N. C., is now superintendent of Mayo Mills, Mayo, S. C.

D. D. Quillian has resigned as superintendent at Excelsior Mills, Clemson, S. C., to become manager and superintendent of Athens Mfg. Co., Athens, Ga. He succeeds O. D. Grimes.

L. E. Stephens has succeeded the late George C. Imes, Sr., as superintendent of Highland Mills, Inc., Griffin, Ga.

George W. Murphy, formerly with the H & B American Machine Co., is now superintendent of Mary Leila Cotton Mill, Inc., Greensboro, Ga. He succeeds **G. R. Brook**, retired. **Wm. C. Hyder**, formerly with Cowikee Mills, Inc., Eufaula, Ala., has become superintendent of weaving.

D. Pechie has succeeded **H. F. Mills**, retired, as general superintendent of Dominion Textile Co. Ltd., Montreal, Que.

A. Bell, formerly superintendent at Hillcrest Throwing Co., High Point, N. C., has become superintendent of Decwick Silk Mill, Asheboro, N. C. He is succeeded in the former position by his assistant, **Hal Ballard**.

W. A. Kieke has been named superintendent of the Dadeville, Ala., unit of Alabama Mills, Inc., succeeding **H. S. Price**.

C. G. Burrows has been appointed superintendent of Covington Weaving Co., Covington, Va., succeeding **J. E. Garvin**.

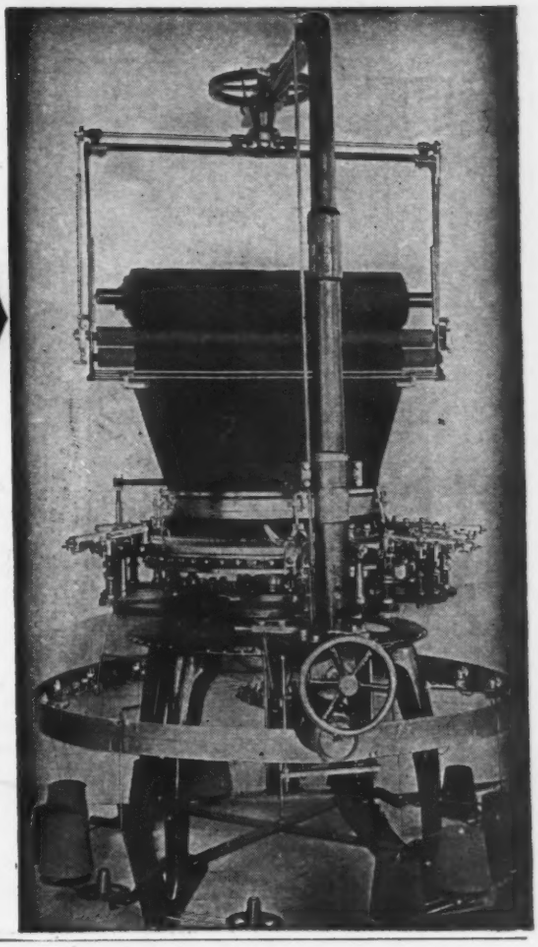
Walter Hindle, formerly card and scouring boss at Barre Wool Combing Co., Barre, Mass., has been named superintendent of Alderman Mfg. Co., Holyoke, Mass.

A. S. Thomas, superintendent of Werthan Bag Corp., Nashville, Tenn., has resigned to become manager of Magnolia Cotton Mills Co., Magnolia, Ark.

William C. Hyder is now general overseer of weaving at Mary-Leila Cotton Mills, Inc., Greensboro, Ga.

J. D. Watkins has resigned as superintendent of Kahn Cotton Mills, Attala, Ala., to become

Single Head Spring NEEDLE Knitting Machine



PRODUCES 100 YARDS PER 8 Hr. DAY

The New S-1 Single Head Spring Needle Machine is especially designed for overcoating materials. At the same time, *any* fabric can be knit on it that is knit on the older type spring needle table!

Production is approximately 100 yards per 8 hour day, using 6 feeds.

Features: Electrical driven by V belt simplified motor drive . . . electrical yarnstop motion . . . and needle stop motion.

Install one of these machines today, and in a few hours after reaching the mill it will be ready for operation!

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Two exclusive features Affording Long Life

1. Automatic-bobbin holders equipped with holding wings electrically hardened all the way through.
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We make holders for ¾" to 2½" bobbin heads, including large-package wood and paper bobbins, also special bobbins. Duplex holders take both automatic and non-automatic bobbins.

Holders for all types of mules, frames, twisters and winders.

MURDOCK & GEB CO., Franklin, Mass.

Manufacturers of Bobbin Holders for Over Fifty Years

THE LOYAL T. IVES COMPANY

EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines: Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY

STEAM FINISHING MACHINERY

Standard Throughout the World

For finishing all types of knitted outerwear fabrics—tubular, flat knitted and woven.

Kastrinsky **designs and builds a complete line of a size and type to meet your requirements. These machines are easy to operate with unskilled labor and maintenance costs are low.**

You can see them in operation in many of the largest plants in this country and abroad. Tell us your requirements—there's no obligation.

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Headquarters for every type Bobbin
For over 45 years, Cloverleaf Bobbins have been built to meet, with scientific exactness, the varying conditions and processes of individual manufacturers.
No matter what type bobbin you need, come to Cloverleaf. Our Organization is constantly engaged in developing new types of bobbins, keeping ahead of every need of the Textile Industry.
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TEXTILES FOR MORE THAN A QUARTER OF A CENTURY
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COST SYSTEMS WORK LOAD STUDIES
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Charles F. Rogers, Jr. — Manager

superintendent of Roswell Mills, Inc., Roswell, Ga.

Dan Hurst has been named assistant superintendent of the Dalton, Ga., mill of American Thread Co.

L. H. Ferguson is now head colorist for Parker Prints, Inc., North Charleston, S. C.

Leo Surprenant, formerly overseer of spinning for Faith Mills, Inc., Averill Park, N. Y., is now with Ace Woolen Mills, Buckland, Conn.

Simon Goldberg is now overseer of weaving at the Medway Woolen Mills, West Medway, Mass.

Thomas M. Deffly has been named cost engineering director of Bigelow-Sanford Carpet Co., Thompsonville, Conn. He will be a member of the staff of **Elliott I. Peterson**, vice-president in charge of production.

Samuel Powel has been appointed manager of the Utica Willowvale Bleaching Co., Chadwicks, N. Y., succeeding the late Frank L. Suplee.

Spencer Garrity has been named superintendent of the Amsterdam, N. Y., plant of Bigelow-Sanford Carpet Co.

Obituary

E. Martin Philippi, 74, died recently near Treasure Island, Fla., where he had been making his home following his retirement last June from the board of directors of American Thread Co. He had been with that company since 1898, when it was founded, having served as vice-president and president before being elevated to chairman of the board.

Albert Tilt, 66, president of the Phoenix Textile Corp., Allentown, Pa., and for many years a leader in the woven silk industry of 25 years ago, died recently.

Andrew E. Vaughan, Sr., 72, founder and retired president of the Vaughan Knitting Co., Pottstown, Pa., died July 19. Mr. Vaughan organized the knitting company in 1907.

T. M. Barnhardt, Sr., 83, president of Barnhardt Mfg. Co., and the Carolina Absorbent Cotton Co., of Charlotte, N. C., died June 21.

George I. Foster, 52, president of Wright Textile Co., Philadelphia, Pa. died recently.

Frank Ellsworth Whitman, 83, of New Harbor, Me., prominent in the textile industry, died July 16 at Lewiston, Me. He was for some time treasurer and vice-president of Union Buffalo Mills, treasurer of Carter Mills, and a director of Piedmont Silk Co. and Santee Mills. He had been president and treasurer of Ware Valley Mfg. Co., and president of Fleitman Textile Corp.

L. Banks Williamson, 68, textile manufacturer, died at his home in Fayetteville, N. C., July 14. He was formerly associated with his brother in operating the Glencoe Mills at Burlington and the Holt-Williamson mills at Fayetteville.

Elijah B. Hamrick, 88, Boiling Springs, N. C., who was instrumental in founding, with the late J. R. Dover, the Ella Mill at Shelby, N. C., which was later sold to the Consolidated Textile Corp., and who was a director of the Dover and Ora Mills, of Shelby, died July 11.

W. Ralph Armstrong, 51, part owner and operator of Waxhaw Cotton Mills, Waxhaw, N. C., which he sold two weeks ago, died July 3. He was formerly associated with his father in the management of the chain of Armstrong Mills.

Joseph C. Rahn, owner of Westfield Knitting Mills, Manchester, N. H., died recently. Mr. Rahn was a native of Utica, N. Y., and came to Manchester six years ago.

Samuel E. Potter, 77, formerly co-owner of Potter Bros. Mfg. Co., Scituate, R. I., makers of bobbins and spools from 1870 until 1924, when a fire destroyed the plant, died at Edgewood, R. I., July 18.

George W. Norwood, 74, a native of Charlestown, Mass., who retired two years ago after 45 years as treasurer of Thayer Woolen Co., Oxford, Mass., died in Worcester, Mass., recently.

Miss Pearl Rodman, 66, treasurer of the Rodman-Heath Cot-

RAPIDASE

for de-sizing cottons, rayons and mixed goods

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Assures rapid, dependable de-sizing.

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Our technical staff always at your service.

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it runs more efficiently, producing a finer quality product that can be sold easier and more profitably
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4 WAYS BETTER than ordinary cotone
EXTRA COMFORT ...more absorbent
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PLURAMINE D-100%

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ton Mills, Waxhaw, N. C., during the period when her mother, the late Mrs. J. L. Rodman, was president, and daughter of the late J. L. Rodman, died recently in Asheville, N. C.

Paul Rodier, 80, French novelty fabric manufacturer, died in Paris recently. Known internationally as the grand old man of the French textile industry, he always insisted that his business be known as "Maison Rodier," because he felt that the family name rather than the individual members represented its progress.

Max Joseph, 66, vice-president of Scotch Woolen Mills, died July 13, in Chippewa Falls, Wis. He had been with the mills for 35 years.

George T. O'Dell, 58, general manager of Schlegel Co., Toronto, Canada, Ltd., died July 10.

Eugene Thomas Cannon, 60, a member of the North Carolina textile manufacturing family, died in Charlotte, N. C., July 5. He was a director of Cannon Mills and of the Imperial Cotton Mills, of Eatonton, Ga. Mr. Cannon was the brother of C. A. Cannon, president of Cannon Mills.

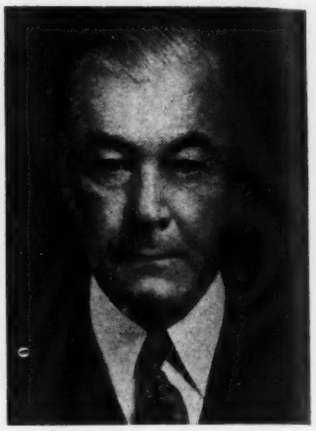
William J. Johnston, since 1892 active in the carpet wool trade, died recently in Philadelphia, Pa.

James McDowell, of New Port Richey, Fla., died July 8, at his summer home in Greene, R. I. He was associated with the Manton Mills as a foreman dyer. He started the Royal Chemical Co., Phenix, R. I., in 1909, and later developed the Pawtuxet Valley Dyeing Co. He retired from business in 1923 and went to Florida.

Samuel E. Potter, 77, retired textile supply manufacturer died July 18, at Edgewood, R. I. Mr. Potter, with the late George H. and Frederick J. Potter, brothers, had been co-owner of Potter Bros. Mfg. Co., Scituate, R. I., bobbins and spools.

Clarence L. Barker, representative for L. Bachmann & Co. in the Chicago area, died recently.

J. H. Dooley, 63, superintendent of Whittier Mills Co. and Silver Lake Co., both of Chattahoochee, Ga., died recently. He had been with Whittier for 40 years.



SIR SAMUEL AGAR SALVAGE, K.B.E., the founder of the United States rayon industry, who died last month, as previously reported, at the age of 69.

George A. Moran, 71, formerly of the Application Laboratory of Calco Chemical Division of American Cyanamid Co., Bound Brook, N. J., who retired last year, died recently. He had served as chief chemist of the Pacific Mills, Lawrence, Mass., before joining Calco.

George W. Smith, 74, Gastonia, N. C., operator of Ideal Roller Covering Co., and associated for some years with Gastonia's first textile plant, the Gastonia Mfg. Co., died June 20.

Kenneth Earl Rice, 40, supervisor of the physical testing laboratory of the Sidney Blumenthal & Sons Co., Shelton, Conn., died June 28.

Otto V. Pratt, for 25 years sales representative of the National Ring Traveler Co., Charlotte, N. C., died July 9.

Edward B. Doolittle, Sr., 80, of Macon, Ga., died in West Point, Ga., July 6. He was an official of the Bibb Mfg. Co. when he retired five years ago after being connected with the textile company for 27 years.

Raleigh V. Reece, 43, officer in World War II, and previously manager for textiles of American Bemberg Co., Elizabethton, Tenn., died at Veterans' Hospital, Johnson City, July 19.

L. E. Sutton, manager of Anniston Cordage Co., Anniston, Ala., died recently.

Edward F. Murray, assistant treasurer, Bates Fabrics, Inc., New York, died recently.

POSITIONS VACANT

FIRST CLASS Experienced dyer wanted: prefer man with experience on wool, cotton, and rayon, both in stock and piece dyeing. Franklin Process Stainless Steel stock dyeing machines and all modern equipment throughout plant. Excellent working conditions, good salary, will pay moving expenses. An unusual position for the right man. Must have good references as to ability and character. Write full details as to education, ability and previous employment. Midwestern mill. P-708, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

WANTED: DYER for eastern Pennsylvania plant. Experience in cotton and rayon knitted fabrics. Prefer textile graduate. P-751, Textile World, 330 W. 42nd St., New York 18, N. Y.

FOREMAN WANTED fully experienced in the operation and preparing of stocks for rag picking machines. Position is steady with good pay and opportunity for advancement. P-782, Textile World, 330 W. 42nd St., New York 18, N. Y.

PLANT ENGINEER: for textile concern. 35 to 45 years old. ME degree or equivalent. Ability to supervise engineers and maintenance men in layout installation and general maintenance work. Working knowledge of maintenance trades and machine shop supervision required. Minimum of 10 years experience in actual plant engineering. State qualifications in application to M-79, P. O. Box 3575, Phila. 22, Pa.

BOSS CARDER required for four set mill near Toronto, Canada. Excellent position, good salary, good prospects. P-783, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE CHEMIST for development work. Man 30 to 35 with at least 5 years practical experience to establish textile laboratory and develop detergents and specialy products for textile industry. Position will offer wide experience in both research and sales development work. Great Lakes metropolitan area. P-784, Textile World, 520 N. Michgan Ave., Chcago 11, Ill.

WANTED: DESIGNER for Canadian Mill. Must be fully conversant with both fancy yarn dye and piece dye suitings for men's trade. P-785, Textile World, 330 W. 42nd St., New York 18, N. Y.

MASTER MECHANIC: small textile mill New York City who can take care of repairs, setting up machinery, understands dyeing and finishing cotton piece goods, burlap, buckram. Steady position. State age, qualifications, salary wanted. P-786, Textile World, 330 W. 42nd St., New York 18, N. Y.

MECHANICAL ENGINEER: broad experience, imaginative and resourceful, accept responsibility, wanted by textile company expanding through research into fields of equipment textile and chemical production. All our employees know of this ad. Please reply to P-787, Textile World, 330 W. 42nd St., New York 18, N. Y.

YARN MILL Superintendent available. Experienced in carded and combed work. Can furnish best of references as to ability and character. Any location. Young and aggressive. Have personal reason for desiring change. PW-788, Textile World, 330 W. 42nd St., New York 18, N. Y.

POSITIONS WANTED

TEXTILE INSTITUTE Graduate, 25 years old, with some woolen experience, 2 years with Q.M. Desire permanent position with possibilities for future. PW-762, Textile World, 330 W. 42nd St., New York 18, N. Y.

SILK AND Rayon fabric expert. Practical mill man, with 20 years experience in fabric analysis styling, cost calculation, mill supervision and converting seeks connection with manufacturer or converter. PW-763, Textile World, 330 W. 42nd St., New York 18, N. Y.

(Continued on page 248)

WANTED

MASTER MECHANIC

To take charge of machine shop and maintenance work of rayon weaving mill.

P-768, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Weaving Mill Superintendent

• Splendid opportunity for young man with executive ability desiring to locate in Lawrence, Massachusetts. Must have college degrees and past experience in weaving. • Applicants should state age, education, previous experience and salary desired. • All replies confidential.

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FOR
Two Outstanding Textile Men

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Required—With above average ability and with successful mill organization experience.

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Required—With broad technical experience in synthetic weaving and preparation. Must have proven record of success with most modern methods.

P-779, Textile World
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Automatic Loomfixer

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P-777, Textile World
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EXPERIENCED FOREMAN

For drawing and spinning (Bradford System) ring and cap spinning. Give full particulars listing last 10 years experience in first letter. Reply

P-782, Textile World
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For Scouring, Carding, Combing Departments. Give full particulars listing last 10 years' experience in first letter. Reply

P-731, Textile World
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WANTED

Young Man for

Assistant Superintendent

Must be Textile School Graduate with practical experience in Scouring, Carding, Combing, Drawing, Spinning (Bradford System). Give full particulars in first letter. Reply

P-733, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

Card Room Overseer

for carded yarn mill. Experience and good references required. Good pay and opportunities.

P-727, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

JACQUARD BOX LOOMFIXER

Steady Job Good Pay

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HARLENN MILLS, INC.
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College and Textile graduate. Age 40, 20 years experience in weaving of narrow and broad cotton, rayon and silk fabrics. Experienced in all phases of administration, labor relations and purchasing desires change.

PW-774, Textile World
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on Cotton System
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on Hand Knitting Counts

Contact—large Hand Knitting Yarn Distributor of National Reputation—No Quantity too large.

RA-766, Textile World
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Opportunity for a cotton spinning and weaving mill to secure the services of a man eminently qualified to gain consumer recognition of quality products.

Broad experience styling, advertising and promoting converted cottons — all channels, all uses. Working knowledge all phases of manufacturing and finishing. Background of conservative financial and corporate experience. Has held Sales Management-Department Head status past eighteen years. Age 52.

Compenstation—salary plus percentage of results, with or without financial participation.

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TO SAMUEL SLATER goes the credit for the construction and first successful operation in America of Arkwright's system of cotton machines. Before that, all attempts to make Arkwright's machinery had failed. When the first cards failed to work, Slater beat them to the proper curve with a piece of grindstone. The water-wheel at Pawtucket froze solid every night; and as he could get no one to stand the cold to start the mill, Slater himself spent 2 or 3 hours every morning before breakfast doing it himself! In 14 months after Slater perfected his machines in 1790, America was in a position to compete successfully with English goods and render importation unnecessary.

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2—#00 Sturtevant Blowers, paddle type, belt driven
1—62½ C&M Brushing Machine
3—2—46", 1—50" Button Breakers
1—48" Bridesbrug Card Set, 2 Cyl. Wood
1—48" Furbush & Gage Card Set, 3 Cyl. Wood
8—Whitin Model C Combers
1—Whitin Model C Ribbon Lapper
1—Whitin Model C Sliver Lapper
2—48" D&F Ceiling Condensers
1—64" Voilker Dewing Machine
1—100 Spindle, #25 Foster Doubler equipped for wooden Tubes, motor driven with 5 HP. 550V motor
3—48" P&W Doubling, Boarding and Winding Doublers
1—Set 20 H. W. Butterworth 108" Dry Cans, dryer, motor driven, with Reeves Drive
1—72" Schoffield Automatic Duster, no apron, no fan
1—54"x54" Batch Type Waste Duster
2—26" Tolhurst Extractors, belt driven, overhauled
1—30" American Laundry Extractor, copper tinned basket, belt driven, under drive
7—40", 48" & 60" Tolhurst self-balancing copper basket Extractors, top pulley drive
6—40", 42", E&H and C&M Folding Machines, with take-up stand, chain drive, no motor
1—100" C&M Flat Fold Folding Machine, 1 HP GE Ind. motor
6—#7 Hunter 2-String Fulling Mills, belt driven
1—48"x21" Smith & Furbush Garnett with feed apron
1—49"x20" James Smith Garnett
15—40", 48", 54", 60", 70", 90" Card and Napper Grinders, with and without floor stands
2—Peerless Belt Lacing Machines
1—Card Lacing Singer Machine ½ HP GE Ind. Motor
2—45½ C&K 4x1 Looms, 25 harness with 1 HP D.C. motors
1—48 C&K 4x4 Box Loom, 25 harness, motor drive
32—45½" Reed Space Draper Model K and Hopedale Automatic Looms, 20 harness, belt drive
8—54" Reed Space C&K 2x1 Looms, 20 harness, belt drive
29—54" Reed Space C&K 4x1 Looms, 20 harness, belt drive
10—54" Reed Space C&K 4x1 Looms, 25 harness
12—54" Reed Space C&K 1x1 Looms, 20 harness
1—54" Reed Space C&K 1x1 Loom, 25 harness
68—80" and 82" C&K 2x1 Automatic Looms, 8 harness cam motions, motor driven
6—92" C&K 4x1 Automatic Looms, 8 harness cam motions with 2600 hook jacquards, motor driven
1—42" C&M Measuring Machine, 60 yd. dial, belt driven
1—54" P&W Measuring and Winding Machine with 100 yd. clock with motor
1—64" P&W Measuring and Woolen Cloth Winder
1—66"x24" P&W 60 yd. Measuring Machine, sanded roll, belt driven
2—24 Pole Smith Drum Skein Mercerizers
1—66" Woonsocket Double Napper, each cyl. with 20 rolls
1—72" P&W Single Acting Knit Goods Napper
1—80" D&F 20 Roll Single Acting Knit Goods Napper
1—80" D&F 20 Roll Single Acting Napper, belt driven
1—48" C. D. Sargent Burr Picker with new feed apron and blower
1—42" Olsham Fearnaught Picker with feed table, no feed
8—50", 65½", 66" and 98" Voelker and Gessner Single and Double Rotary Cloth Presses
1—54" Werner Single Color Printing Machine with Reeves drive
3—50 Spindle Carpenter 54" Skein Reels, non-adjustable, belt driven
1—50 Spindle Carpenter 54" Adjustable Skein Reel, belt driven
1—60" C&M Single Blade Shear, plush, arranged for motor drive, no motor
12—66" P&W 2-Blade Shears, Model B, belt driven
1—66" P&W 2-Blade Shears, Model A, belt driven
2—60" P&W File Cut Single Shear
2—66½" P&W Single Blade Shears, belt driven
1—72" Monteforte 3-Blade Shear
4—76" C&M Single and Double Blade Shears
1—42" Singer with hood
1—32" D&F Jack Spooler
1—100 Spindle Draper Spooler with Foster Tension, McCall Guide
1—28" Wide x 12" Diameter Set of Iron Squeeze Rolls
1—30' Clip Tenter Frame with 36-76" Opening, brass gates, with Reeves Drive and motor
1—40' Butterworth Pin Tenter Frame with 44-62" Opening with Reeves Drive, arranged for motor, no motor
1—60" C&M Single Brush Tiger, arranged for motor drive, no motor
22—156 Spindle S&L Tape Driven Twisters, 3½" R, 5" gauge, belt driven
1—200 Spindle Lowell Trap Twister, 3½" ring, 5" gauge, arranged for chain motor drive, no motor
1—Washing Tub Agitator with motor
2—54" Entwistle Warpers
1—80 Spindle Foster Tube Winder
8—100 Spindle Foster Model 12 Tube Winders
1—46" Winding, Boarding and Tubing Machine
2—58" P&W Winders, Edge, Stenciling and Winding
2—Sargent Yarn Conditioning Machines
1—Reduction Gear
1—#15533 Reeves Drive, Size 6, Class G, Range 3 to 1

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OPA REGISTRATION NUMBER 789

EST. 1923

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cards

W-770, Textile World
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BOX LOOMS

8—C&K 4x4 Box Looms
25 Harness, Heavy Worsted Heads, between 72" and 92" in width, preferably equipped for motor drive.

Write

W-767, Textile World
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JACQUARD CARDS

Designs for C&K Head 2140 Double lift, single cylinder, 1304 hooks. Design must be for 944 hooks, 4 repeats, double scale, 8 shafts skipped.

W-738, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

12 PLUSH LOOMS

W-694, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

1 Crompton & Knowles 82" Heavy Worsted 4 x 4 Loom
1 60" Tape Condenser any make or condition
2 Johnson & Bassett Mules.

W-740, Textile World
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WANTED

DUBIED,
SEIFERT & DONNER
and GROSSER
WIDENING MACHINES

6, 7 and 8 gauge.

Write to

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Wanted to purchase surplus yarns of all types — cotton, rayon, acetate, nylon, silk, wool, spuns, and blends.

W-474, Textile World
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ONE 4 x 1 LOOM

dobby, automatic, motor drive. Prefer width suitable for 50 inch cloth, but will consider loom for narrow goods. Must be in first class condition. Give full description and price.

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Chemicals, Dyes, Gums, Oils, Waxes, Greases, Pigments, Residues, By-Products, Wastes

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WANTED COLORIST

for established hand printing concern located on West Coast. Man must be capable of matching and making new formulas for all classes of dye stuffs. Write fully on experience and technical background. Give references and former employment. Replies held strictly confidential.

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4x4, motorized, 78" to 82", with large shuttle box, suitable for the weaving of fibre. Please give complete description, location and price.

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Monel Metal or Stainless steel piece DYE KETTLE for woolen goods.

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A Prince Smith Double Head Can Gill Box for a 12 Spindle Draw Box to Take 6" x 12" Bobbins.

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1—Hercules 48" Extractor, copper basket.
3—26" & 30" Hercules Extractors.
1—V.V. 42" self Balancing Extractor with motor.
2—Gessner 72" & 50" Vacuum Extractors.
3—Tolhurst 48" & 36" Open Top Extractors.
1—Tolhurst 60" underslung motor driven Extractor.
3—24' & 6' string Dye Kettles.

DYEING MACHINES

3—V.V. stainless steel lined dye becks, complete with motors and drives.
1—Complete Beam Dyeing Unit
1—Smith-Drum 3-Arm Skein Dyer
2—Smith-Drum 22 & 20 arm skein dyers.
3—K & W, Obermaier & Buhlmann skein dyers.
1—Sargent 3-bowl scouring train, 48" bowls.
3—Yarn scouring & dyeing machines, all stainless steel.

DRYERS

1'P & S Raw Stock Dryer, automatic feed.
1'P & S 4-unit 8' Multipass Airlay Dryer.
1—National Loop Dryer, 6 fans, 86" wide.
1—Heathcote Pin Tenter Dryer.
2—P & S Hurricane Dryers.
2—3-Apron Conveyor Dryers.
1—Hurricane Wool Dryer.
1—Hunter High-Speed Rotary Tenter Dryer.
1—James Hunter Knit Goods Dryer.
5—P & S Raw Stock Dryers.

NAPPERS

2—D & F Single Acting Nappers, 60" & 84".
3—Gessner & Woonsocket S. A. Nappers, 84"-90".
2—Woonsocket 86" 20-roll S.A.B.B. Nappers.
1—Woonsocket 86" 24-roll D.A.B.B. Nappers.

TENTER FRAMES

2—Textile Fin. & Butterworth Tenters, top openings, clips, 60' & 90'
1—Heathcote Pin Tenters 30'60" wd.
1—V.V. 40' Tenter, 60", S.S. clips.

PALMERS-PALMER QUETCH UNITS

1—Textile 66" Low type Palmer.
1—V.V. 88" Palmet Quetch Unit.
1—French Palmer, 60", complete with blanket & Drives.

PADDERS - MANGLES - QUETCHES

1'V.V. 60" 2-roll Dye Padder, rubber rolls.
2—2-roll Padders, 94" & 98"
2—Butterworth 50" Starch Mangles
3—Butterworth & Morrison 2 & 3-roll Quetches 50"-72".

BEAMERS - BATCHERS

5—Textile 50", 60", 66" & 72".
4—2-roll B.B. Batchers, 50"-72".

FLAT FOLDERS—DOUBLERS

2—E & H Flat Folders, 50"-60", with motors.
3—P & W & Windle Doublers, 50"-65".
1—96" Doubler & Fold ng machine.
3—Plastic & Rubber Coaters, 50"-72".
4—72" Inspection Frames.

WASHERS

2—Riggs & Lombard Continuous Cloth Washers.
3—Empire Washers.
1—American Laundry Cascade Washer.
1—Rodney Hunt Rope Washer.

BRUSHING MACHINES

2—74" Rotary Cloth Brushers.
2—Double Wool Brushes, 84" wide.

CALENDERS

2—Butt, 2-roll Hydraulic Calenders, 30 & 100 tons.
1—Butt, 3-roll Embosser, 72".
1—Grand Rapids Calender, 46½".
1—Butt, 3-roll 55" Calender.
1—Textile Fin. Co. 150" 2-roll Calender.
1—Textile Fin. 2-roll. 60" Calender.
1—C. & M. 2-roll 60" Calender.
1—3-roll Ribbon Calender.
1—4-roll 54" Calender.
1—K & G 3-roll 60" Finishing Cal.
1—Butterworth 80" Paper Calender.
1—Farrell 4-roll Calender.

SHEARS

3—P & W 2 Blade Shears 66½".
1—P & W Single Blade Shear 60".

DYE BECKS—DYE JIGGS

3—V. V. 4' stainless steel lined dye becks, complete with motors and drives. New all S.S. Dye Becks, 4'20' long.
4—60" S.S. Dye Jiggs.

complete knitting plant.
complete Hosiery Dye. & Fin. Plant.

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2—R.B. & F. 3-color Print machines, 40".
2—R.B. & F. 5 & 7 color Print machines, 40".
1—Single Color Print Machine, 60".
1—Werner 54" Single Color Print Machine.

TUBERS & MEASURING MACHINES

3—Tubing & Measuring Machines, 50"-60".

WEAVING MACHINES

14—C & K 72" looms.
20—C & K heavy duck Looms, 76".
14—Halton Fine Index D. L. Jacquards.
30—C & K 2 x 1 looms, 68".
4—Stafford 4 x 1 89" Looms.
1—Light Cord Tire Fabric Loom, 72".
55—C & K Jacquard Looms, 48".
100—C & K 36" Shirting Looms.

KNITTING MACHINES

Lot of Hosiery Knitting Machines.
Lot of Outerwear Knitting Machines.
Lot of Wildman, S & W, & H & Leighton machines.
5—Latch Needle machines, 20", 30" & 35" cylinders.
4—Dubied & C & F machines.
Lot of Copper Spring Needle machines.

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1—40" Fearnaught Picker.
1—Woonsocket Single Beater Breaker Picker.
4—Shoddy or Rag Pickers.
1—Whitin 40" Finisher Picker.
30—56" Fisher automatic Feeds.
3—C & M 40" & 42" Fearnaught Pickers.

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1—D & F 2-cylinder 48"x60" Card with Bramwell Feed.
2—Sets 3-cyl. D & F 48" x 48" All Iron Cards.
1—D & F 60" Card Breaker.
2—Kitson & Bates automatic Hopper Feeders.
1—Bramwell 72" Feed.

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11—Davis & Furber Mules 2¼" gauge.
40—Whitin Spinners, 204 spindles, 4" gauge.
1—Davis & Furber Compressor Spooler.
12—#90 Universal Winders, for silk operations.
1—Sipp 80 spindle Winder.
4—Eastwood Skein Winders, 44" to 60" skeins
4—Payne & Huse Winders.
3—Sipp Eastwood Skein to spool Winders, 100-200 sp.
4—Collins Novelty Twisters.

BUTTON BREAKERS

2—V.V. 60" & 50" Button Breakers.

BRAIDING MACHINE

—Lot of New England Butt Braiders.

TWISTERS

5—Brownell Twisters, 48 to 96 spindles.
9—Whitin Twisters, 200 spindles, tape drive.
1—D & F 60 spindle Twister, 3¼" gau.
30—F & J Twisters, tape driven, 4½" ring.

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38—C & K 52", 2x1, 25 Dobby, ¾ H.P. Motor Drive. 1923 Model.
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8 Ply Scranton Reel
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100,000—5" and 6" Paper Cones
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Replacement Parts For #50 Universal Winders, Atwood Spinners and 5 BS.

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100,000 Fibre Head 3½" Traverse, 3" Head
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100,000 Fibre Head 3⅜" Traverse, 2¼" Head
50,000 Fibre Head 3½" Traverse, 2¼" Head
10,000 Fibre Head 4¾" Traverse, 3½" Head
50,000 Metal Head 3⅝" Traverse, 3" Head
20,000 Metal Head 4" Traverse, 2⅝" Head
3,500 Bakelite 7" 5 B Spool, 3" Head
10,000 T Hole 5 B Spin 4", 3" Head
12,000 5 B 4", 2⅜" Head

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5—Drum—18" wide complete with Calendar and 2 Quetches

40—3 Tier Metal Mill Trucks
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3—machines, 100 spindles each
1—machine, 92 spindles
1—machine, 88 spindles
1—machine, 86 spindles
9—machines, 132 spindles each.
8—machines, 100 spindles each. Belt driven. 3" cork covered take-up rolls.
1—6B Twister, 92 spindles, friction drive, 3" cork covered take-up rolls.

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RAYON FINISHING EQUIPMENT

1—Butterworth 90' Tenter Frame, 50" width, with 15 HP motor, with steam coils and brass clips.

2—Windsor & Jerauld 40' Tenter Frames

1—Butterworth 50" stainless steel dye jigg, with motor.

1—Van Vlaanderen 54", 2 roll Quetsch, ball bearing.

1—Gessner 70" Semi-Decator, 30" diameter cylinder, complete with blanket and vacuum pump.

1—56" Examining & Measuring machine.

Set of 105" vertical dry cans, 63 cans to set, complete and including swing folder.

2—Elliot & Hall Flat Folders

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1—National Loop dryer, 24' x 11' hig, 84" wide.

1—Van Vlaanderen 5 tier, 4 section conveyor dryer, with rods, 60" face, motor driven fans, airfin heating units.

2—Proctor & Schwartz Loop dryers 30 foot length, sticks 7 foot 1", 4 overhead fans.

SPINNING EQUIPMENT

2—Foster #30 winders, 100 spindles each.

8—Universal #50 winders, 6 spindles each.

ADDITIONAL FINISHING EQUIPMENT

4—80" double teasel Gigs, with 7½ H. P. motor.

2—80" Steaming Machines, equipped with pleating device.

KNITTING MACHINES

3—Circular rib knitting machines, 10" to 16", 8 feed, 10, and 11 cut.

Autoclave, Beamers, Blocks, Button Breakers, Calenders, Dryers, Can, Loop, and Conveyor, Gigs, Kettles, Pebble Mills, Enamels, Pans, Pantograph Engravings, Pumps, D.C. Motors, Padding Machine, Quetsch, Pebbles, Rolls Tanks, Water Softeners, Water Filters.

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CALENDAR, 3 roll 20" Morrison
CALENDAR, 3 roll 70" face
COUNTERS, Veeder-root
DECATER, Gessner, Full 72"
DRY CANS, 48"x24", set of 7
DRY CANS, 72"x23"
DRYER, P & S Airlay
DRYER, Single & Double Truck
DRYERS, Kenyon & Heathcote, 6 tier
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DYE TUBS, 6' wood, complete motorized
DYEING MACHINES, Smith Drum Paddle type
DYEING MACHINE, Smith Drum Pocket type
DYEING MACHINE Smith Drum 60 Arm
DYEING MACHINE, Rochester Rotary 30"x20", 3 pocket, 20 lb. capacity
EXTRACTORS, Beam 50" & 60" BB
EXTRACTORS, Open top Tolhurst 40"
EXTRACTOR, VV Copper Basket 48"
EXTRACTOR, open top 30" American
FANS, Exhaust 3 blade propeller 30", 36", 49"
FLOCK STENCIL MACHINES, with patterns
FLAT FOLDERS, Elliott & Hall adjustable
HOISTS, Budgit, 1 ton capacity
INFRA RED units complete with blowers
INSPECTION TABLES, 47"
JIGGS, monel lined 60" st. st. 50" & 60"
KETTLE, copper, 50 gal. agitated, Jacketed
LOOMS, Draper Model E 30", 40", 55"
LOOMS, C & K Heavy Duck Looms 76"
MEASURING MACHINE, P & W Model AWC
MOTORS, ¾ to 5 HP, AC/DC 220 volt
PAD, 8 roll Hydraulic
PAD, 2 roll 50"
PALMER 62"
PALMERETTE, 60" face, General Machine
PRINT MACHINE 10" sample or ribbon
QUETCH, 2 roll VV 50" & 60" ball bearing
SCUTCHER, 50"
SEWING MACHINES, Arlington Bicycle
SHEAR, Hermas, 4 Knife 70" wide
SQUEEZE ROLLS, 12"x10"
STEAMER, Cottage, 12' long x 66" wide
TENTER FRAME, Pin W & J, 30'x220" wide
TENTER FRAME, VV 55' x 60", st. st. clips
TUBERS, Paterson variable speed motors
TUBER, VV with doubling attachment
WARP COMPRESSOR CREEL
WASHER, open 4 compartment, 60" wide
WASHERS, Slop, New Stainless steel
WASHER, GL Rope type steel & wood
WASHER, 3 compartment open
WOOL WASHERS, J. Hunter 6' & 8'
WATER SOFTENERS & FILTERS

We are prepared to help you in disposing of or acquiring both complete plants and individual machines. Your inquiries cordially invited.

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40 M—8¾" Woolen Automatic Loom Bobbins
4700—Twister Bobbins, 4¼"x2"x1-⅞"—Dixon Drive
400—Drawing Spools, 14"x7"
263—Jack Spools 37"x6"
750—Beam Barrels, 40'-44"-46"-49½"-72"
11863—Heddle Frames for 12" Heddles
3800—Rabbeth Modern Spinning Spindles—Saco, Lowell & Whitin—Tape Drive, Cluich
46½ Pr. 22" Split C. I. Flanges, C&K Beam 6½" dia. barrel.
2 Ton—Leather Belting (Large sizes 20" & over)
112—Galvanized Filling Boxes 26¼"Lx 18½"W.x13"D.
123,505—Flange Rings, 1¼"; 1-5/16"-1⅜"-1½"-1-9/16"-1⅝"-1-11/16"-1¾"-1⅞"-2"-2⅛"-2-9/16" #1 & #2 Flange—Single & Reversible.
1340—Twister Rings 2¼"
74,930—Plate Holders, 58,996 Cast Iron Holders.

When we advertise it, we own it

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P. O. BOX 495 PAWTUCKET, R. I.

FOR SALE!
1—Barber-Colman portable warp tying-in machine, model CLWT, B knotter.
4—Woonsocket 36 roll nappers, double acting, 86" wide, ball bearing workers, motor driven.
1—Fostel model #101 cone winder, 80 spindles.

JAMES E. FITZGERALD
TEXTILE MACHINERY
10 Purchase Street Fall River, Mass.

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WILDMAN 28 CUT SPRING NEEDLE MACHINES

NUMBER OF FEEDS	CYLINDER SIZE
6	11"
8	12"
8	13"
8	14"
10	15"
10	16"
10	17"
12	18"
12	19"
12	20"
12	21"
12	22"

FS-643 Textile World
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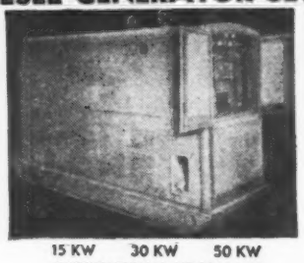
PORTABLE DIESEL GENERATOR SETS



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Immediate delivery.
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SIX 5-B SPINNERS

Equipped for belt drive.
Single roll. 2½" ring.
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176—Model "C" Draper automatic shuttle change looms, individually motor driven, 25 harness dobby, fine gear take-up, sliding bar, warp stop motion, center filling fork, individually motor driven with motors, removable cloth rollers, 51" reedspace.

3—Sets of 48 by 48, 3 cylinder card complete with rub or tape condenser, Bramwell feeds, Camelback center feeds, individually motor driven, at present in operation, for delivery August and September.

90—Draper Automatic Looms for 60" goods, equipped with Roper let-off and ratchet take-ups, Belt Drive

52—Draper Automatic Looms for 48" goods, Roper let-off, worm take-up, Belt Drive.

250—Draper Automatic Looms for 40" goods, Roper let-off and ratchet take-up, Belt Drive.

40—Crompton and Knowles Automatic looms 4 x 1 with 20 harness dobbies to weave 40" goods

8—Ribbon looms with dobbies. 15' 6" with double set of battens, one set for making Boucle fringe, the other set of battens for regular ribbon work.

10—Crompton and Knowles 4 x 4 48" Jacquard looms, individually motor driven

20—Crompton and Knowles 2 x 2 48" Jacquard looms, individually motor driven

70—Crompton and Knowles 600 hook double lift Jacquard machines

50—#90 Universal quillers or coppers, with or without bunch builders belt driven or motor driven.

Sipp or Atwood winders to wind from skein to spool

Sipp or Eastwood warpers and creels

3—Atwood 5Bs Doubler twisters, motorized, 100 spindles, 6 End

52—C and K motor driven looms 4 x 1, equipped with dobbies, warp stop motion, pick clocks, temples, beams, etc., 51½" Reedspace

74—2 x 1 same as above all for 48" cloth space

Numerous lots of spools, various sizes—all wood, wood and metal, and fibre and wood etc.—of different size head and traverse.

PATERSON
SILK MACHINERY EXCHANGE

24 Spruce St., Paterson, N. J. Sherwood 2-1363-4-5-6

FOR SALE

BTS

SPECIALS

MOTORS—2, 3, 5, 7½, 10 HP 220 Volts, 3 phase 60 cycles

REEVES VARIABLE SPEED TRANSMISSIONS

1—#1 Class D 1—#2 Class D 1—#3 Class E 1—#5 Class A

BUFFALO-STURTEVANT—CLARAGE BLOWERS

Sizes 1½-3-4 5 Window Fans 36" and 38"

1—KW 14 stick Skein Dye Machine monel lined, with 1 HP 220 volt motor & gear reduction unit.

2—F&J dry Twisters 220 spindles, tape drive, 3" ga. 2" rings, 4 spool creels.

Direct Factory Agents Walter L. Parker Bobbin & Spool Co.

BAY STATE TEXTILE CO.

220 HARTWELL STREET • FALL RIVER, MASS.

FOR SALE

28—High Speed Section Beams 54¼" between heads x 28" dia. heads.
177—Steel Clad Doffing Boxes 22" x 10" x 10"
25—7" Traverse Wood Cones for #101 Foster Winder
1—Cast Iron Size Kettle 110 gal. cap.
1—Sargent 36" Multiplex Burr Picker (like new)
2—Lindsey Hyde 72" Yarn Reels
15—Entwistle 54" Beam Warpers
9—Entwistle Ball Warpers

STANDARD MILL SUPPLY COMPANY

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FOR IMMEDIATE DELIVERY FROM OUR OWN STOCK

Rubber and brass rolls from 30" to 112" long in all diameters.
Sturtevant blowers #6 and #8.
Motors all sizes.
Motor generators.
Dye jigs 50" to 72"
2—36" hydro extractors.
1—Button breaker 50"
Dye pads from 40" to 112".
1—66" Heavy Butterworth 2 roll padder.
28—Copper cans 80" wide.
Copper and steel dry cans 40" to 130".
1—#3 Nash pump.

41—Triple decker New England Butt Braiders 12-16-20 carriers.
3—4' Diameter x 46" face copper cans heavy gauge.
3—5' Diameter x 46" face copper cans heavy gauge.
SINGLE ROLL BATCHERS.
1—40" Sludge Extractor (Iron).
1—36" 3 roll hydraulic calender.
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2—McClusky Filing System.
1—Prosperity Steam Press.

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APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS

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Yarn Winding and Spinning Machinery

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1—60 SPINDLE Motor driven Foster from skein to cone
2—NET DRYERS
2—QUETCHES (Motor Driven)
1—BEAMER (Motor Driven)
2—MEAS. & TUBING (Motor Driven)

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For Full Fashioned & Seamless Hosiery
Underwear & Outerwear Mills
A complete line of
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FOR SALE

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2 WHITIN QUILLING MACHINES

304 Spindle—3½" Gauge 10½" Traverse—Model "J"

ITEMS 1244-1245

2 CAVAGNARO EMBOSSING MACHINES

Large Heavy Type 3 Roll Machine—But No Embossing Rolls Included—Takes 60" Goods

ITEM E-2

OPEN TENTERING FRAME

Butterworth Pin Type 72" Max. Width

ITEM 12208

CAN DRYER

29 Tinned Steel Cans 144" Face x 24" Dia. Butterworth—3 Section Vertical

ITEMS 9710 & 9944

BEAMING FRAME

Standard Size—80" Between Heads—30" Maximum Dia.

ITEM 10056

TACKING MACHINE

Made by Din & Moore Mfg. Co.—Will Take Cloth Up To 90"—Complete With Folder & Sewing Machine & Motor

ITEM 9945

WOODEN CREEL

85½" High—108" Long—7" Spindle—Centers for 220 Ends—3¼" Spindle—Centers for 440 Ends—Takes Paper Tubes

ITEM 9755

DEWING MACHINE

72"

ITEM 9866

BOIL OUT MACHINE

Includes Pumps & Foxboro Temp. Clock—Also Roll Up Machine—72"

ITEM H 1000

BACK WASHER DRYER

Taylor-Wadsworth—12 Cylinder

ITEM J.B. 123

2 WORSTED 48" LISTER-NIP COMBS

Ramsden & Stephenson—For Fine Wool—With Feed Boxes of 26 Fallers per Set

ITEM 6730

DOUBLING & MEASURING MACHINE

Parks & Woolson—#5599—Width 66"

ITEM 9841

WHITEN TAPE CONDENSER—NEW—COTTON

Model "C"—Serial 425000—Series—40" Width

ITEM 12149

STRAIGHT TYPE CREEL—NEW

McBride—300 Ends—Suitable for 4" x 8" Roving Bobbins—Equipped with Brake & Elec. Drop Motion

ITEM 9838

1 SINGLE DRUM JACK SPOOLER—48 END

Or Compressor made by Worcester Warp Compressing Machine Co.—48" wide with Jack Spool Stand—5 digit Veeder Root yardage counter—new lot of Jack Spools with 12" Heads

ITEM 10190 R

1—3 CYLINDER C. & A. TIGER

All Belt Drive from 5 H.P. Motor—66" Wide

ITEM L.H. 789

VOELKER STEAM PRESS

66" Wide

ITEM 6781

GESSNER STEAM PRESS

Jumbo Type—66" Wide

Collins & Aikman Corp.

Sales & Salvage Division
6th & Upland Aves.,
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Phone — Chester 4167

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Near 138th Street

Partial List Only—Write for Complete Listing

DYEING & FINISHING

1—BATCHER & RAILWAY SEWING Machine 60" Adjustable, mtr drive.
2—BATCHERS 50" and 54" Single & Double roll units.
1—BRUSH 68" with steam box.
1—BRUSH & SHEARING Machine 44" with 4 sets cutting parts.
1—CALENDER 19" Face 3 roll for Narrow Fabrics.
1—CALENDER 36" Face 3 roll, friction type.
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1—Set DRY CANS 101" Face x 23" Dia., Copper 21 cans.
1—Set DRY CANS 142" Face x 23" Dia., teel 18 cans.
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1—DECATUR 72" with Pump.
1—DRYER Drum type with Carbonizing unit for Knit-Goods.
1—DRYER Backwasher type 9 cylinders for Worsted Tops.
3—DRYERS Loop equipped with fans and heating system.
3—DRYERS PIN equipped with fans and heating system.
2—DRYERS RAW STOCK equipped with conveyors, etc.
3—DYEING Machines Skein 28 to 56 stick units.
1—DYEING Machine 25 porcelain arms equipped with pump.
1—DYEING Machine, 3 arms, pump and motor.
3—DYE Tubs S.S. Lined with reels, sample type.
7—HYDRO-EXTRACTORS, Tolhurst, 40", 48", 60" Copper Baskets
1—EXTRACTOR 42" Copper. Basket, underneath.
1—FOLDER 45" adjustable 18" to 45".
1—FULLING MILL Double Compartment unit & 2 single drive.
1—Pr. GUIDERS 72" with stands.
20—HUMIDIFIERS Bahnson with motors, Model G.
1—INSPECTION Machine 96" cloth with clock.
4—JIGGS 60" S.S. Lined with S.S. Expanders.
4—JIGGS 42" S.S. Lined with S.S. Expanders.
1—KETTLE 6' Box with reel, wood box.
2—KETTLES 44" and 58" S.S. Lined with S.S. Reels.
5—KIERS 1200 to 3400 Gallon Capacities.
1—MANGLE 40" 2 roll unit, screw set.
1—MANGLE 42" 3 roll unit, screw & lever set.
1—MEASURING Machine 48" with motor, tube to tube.
2—NAPPERS 80" and 88" D.A. 36 roll units, Woolens & Mixtures.
2—NAPPERS 80" and 90" 20 roll units, for Knit-Goods.
1—NAPPER 80" 20 roll unit, Cotton.
2—NAPPERS 66½" Single roll units.
3—NAPPERS Single Acting 72" to 92" 12 to 18 roll units.
1—PADDER 60" with 2 Rubber rolls 12" dia. and tank.
1—PADDER 69" with 2 rubber rolls 14" dia. and tank.
1—PALMER 60" x 40" Dia. with blanket and drying cylinder.
2—PRESSES, Rotary Steam type 66" and 80" Double Bed Units.

COMPLETE WOOL CARDING & SPINNING MILL consisting of: D&F CARDS & MULES

1—Card 48" x 60" dia.
2—Cards 48" x 48" dia.
10—Cards 44" Approx. x 48" dia.
2—Mules 280 Spindles 2" Gauge
1—Mule 264 Spindles 2½" Gauge
1—Mule 280 Spindlees 2½" Gauge
1—Mule 320 Spindles 2⅛" Gauge
2—Mules 336 Spindles 2¼" Gauge approx.
All Machinery offered subject to prior sale.

1—QUETSCH 58" with 2 rubber rolls cypress immersion box.
5—SHEARS 45" to 80" Single & Double Blade Units.
1—SHEAR CARPETS 12/4.
1—SINGER 70" 4 burner unit.
1—SLASHER 64" Rayon 3 Can with controls & size box.
1—SLITTER 42" roll to roll 87 Knives.
1—TUBER 48" with clock, motor driven, tube to tube.
2—TENTER FRAMES, Pin Style, 33' x 66" width, 56' x 66" width.
2—BACKWASHERS with Gilling and Dryers, worsted Tops.
3—WASHERS Rope Type 6' Boxes with Log Rolls.

CARDING, SPINNING & WEAVING

4—SPENCER VACUUM CLEANERS Mill type motor driven.
1—BREAST 48" with workers, stripper, etc., clothed.
10—CARD STRIPPERS 40" for Whitin Cards.
1—CARD 45" Face x 48" Dia., Single Cylinder with Condenser.
1—CARD 40" Face x 48" Dia., Double Cylinder with Lapper.
5—CARDS 4 cyl. sets D.&F. with Feeders, Breasts, Condensers, new clothing, complete.
2—CARDS 54" x 54" Worsted with Coilers.
2—COMBS Worsted Single Dabbers 48's & 50's Yarn with coilers.
1—CONDENSER 60" Double Rubb with 2-20" Ring Doffers.
2—CONDITIONERS, Sargent for yarn.
3—CUTTERS, Flock and Rag type.
2—DOUBLERS YARN Foster #25, 100 spindles each, mtr driven.
14—DRAWING FRAMES 4 & 6 Delivery Frames 10" & 12" Coilers.
6—FEEDS 52" weighing type as for Cards.
2—FEEDS 48" and 60" as used on Pickers.
2—FEEDS 60" Apperly intermediate as used on Cards.
1—GARNETT 60" x 30" dia., Hopper Feed, Breast, unit clothed.
4—GILL BOXES Baller Type Single Head, Double delivery.
1—GRINDER NAPPER 72".
4—INTERMEDIATES 9 x 4½, 72 and 126 spindle units.
14—JACQUARDS 1304 Hook Mach's fine index.
3—JACKSPOOLERS 40" and 48" units 48 and 60 ends.
4—LAPPERS 20 end sliver feeds, 10½" Lap.
15—LOOMS Draper E 30" 2 harness, belt dr.
10—LOOMS Draper E 40" 2 harness, belt dr.
3—LOOMS Draper D 40" 8 harness, motor dr.
32—LOOMS C&K 4x1 automatic 54" Reed Space, 20 harness dobby.
12—LOOMS Stafford 60" Reed Space 4 harness, motor driven.
10—LOOMS C&K 82" 4x2 Convertible, E.W.S.M., 30 harness.
6—LOOMS C&K 82" 4x1 Automatic, 25 harness, E.W.S.M.
2—LOOMS C&K 82" 4x4 Box 24 Harness.
8—LOOMS C&K 72" 4x4 Box 16 harness Gem Heads.
4—LOOMS C&K 82" 4x4 Box 12 harness Gem Heads.
2—LUMPERS 36" and 52" Width units.
4—MULES D&F 300 Spindles each, approx. 2" Gauge.
2—MULES Worsted 650 Spindles each approx. 1-7/10" Gauge.
1—VERTICAL OPENER, grids, fan and cond.
1—VERTICAL OPENER, screen section & hopper feeder.
1—FEARNAUGHT PICKER, 40" x 52" Dia. cylinder with Hopper feed.
1—PICKER RAG 26" x 26" with feed apron.
2—PICKERS RAG 42" x 36" dia., cylinders, with lumpers.
2—PICKERS BURR 24" and 40" Widths with Hopper feeds.
5—QUILLERS 378 ends each, 2½" Gauge 8" traverse.
3—REELERS, Skein 54", 80 spindle double side units.
4—SLUBBERS 11 x 5½ balanced rails 56 and 64 spindle units.
12—SPEEDERS 7 x 3½, 176 spindles each.
8—SPEEDERS 8x4, 8x3½, 160 spindles each.
2—SPINNERS 100 Spindles each, Single Deck 3" Cork rolls.
10—SPINNING FRAMES 2-¾" Gauge, 2" Ring, 256 spindle units.
2—STRIPPERS with tanks.
22—TWISTERS 156 Spindles each 3-½" Ring, 5" Gauge, tape drive.
1—TWISTER 120 Spindles 2½" Ring, 3-¾" Gauge band driven.
1—TWISTER 200 Spindles 2½" Ring, 3-½" Gauge band driven.
4—TWISTERS Brownell 72 Spindles each, 4x8 Spool.
1—WARPER Ball type 2560 ends, electric stop motion and measuring device.
5—WINDERS Cone Type 60, 68 and 100 Spindle units.

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2568 Park Avenue Bronx 51, New York
Tel.: MElrose 5-1772

POSITIONS WANTED
(Continued from page 237)

WANTED POSITION: As Manager or Superintendent. High grade textile man desires change. Thoroughly experienced in all phases of cotton and synthetic yarn and cloth manufacture. Would particularly welcome opportunity of position paying salary and bonus based on results. Highest class references. PW-789, Textile World, 330 W. 42nd St., New York 18, N. Y.

DYER-CHEMIST: Textile Institute graduate. I.Q. 139. Age 28, unmarried. Five years experience in dyeing cotton, wool, rayon and mixtures, in both yarns and fabrics. Intimately acquainted with direct, acid, naphthol, vat, indigosol and developed dyes. Some experience in making up screen-printing pastes with chromes, rapidogens and indigosols. Have done fireproofing and waterproofing of textiles. Frankly I'm a bit rusty, having recently returned from overseas. Do you have an opening with a future? PW-790, Textile World, 330 W. 42nd St., New York 18, N. Y.

CONSUMER QUALITY testing, especially physical, of pile, woven, and knit fabrics. Product development and research. Quality control and testing devices. B.S. 28. PW-791, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE CHEMIST sixteen years experience cotton yarn dye-house in laboratory and as solicitor. Desires position in similar capacity or salesman for dyestuff or chemical house. Philadelphia or vicinity preferred. Age 34, married. PW-780, Textile World, 330 W. 42nd St., New York 18, N. Y.

FRENCH TEXTILE Engineer, limited experience, 26 years old, desires position any branch industry, possible New York vicinity, perfect English, J. Bahloul, 15A West 64th St., New York, N. Y.

AGGRESSIVE YOUNG man: college graduate seeks position with reputable firm in capacity of selling, buying or production. Easily adaptable. Some textile experience on cottons, rayons. PW-792, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE ENGINEER: Highly experienced in production methods of weaving mill; styling, designing and cost estimating of spun rayon, cotton and woolen fabrics. At present in responsible position. Wants employment or business opportunity in New York metropolitan area. PW-793, Textile World, 330 W. 42nd St., New York 18, N. Y.

CONTROLLER: THOROUGHLY trained and a specialist in financial and accounting—standard costs and organization methods, desires change. Has extraordinary successful background. If interested please contact Textile World for resume of experience and background. PW-794, Textile World, 330 W. 42nd St., New York 18, N. Y.

SELLING OPPORTUNITY WANTED

WANTED: CONTACT with mills manufacturing hosiery, underwear (mens, ladies, children and infants) and allied lines by aggressive sales organization offering live wire sales representation and distribution, in domestic and foreign markets. Cosmopolitan Sales Company, 450 Seventh Avenue, New York 1, N. Y.

MILL REPRESENTATIVE: Aggressive textile man with good contacts, excellent background, experienced cottons, rayons. RA-795, Textile World, 330 W. 42nd St., New York 18, N. Y.

BUSINESS OPPORTUNITY

WE WOULD like to make arrangements to manufacture cards and other textile machinery. BO-796, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED
TEXTILE SALESMAN

For a Jig Dyeing plant of rayon and cotton piece goods. Only man considered with a following among mills and converters. State in detail connections and past experience to be considered.

SW-798, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

4—Whitin Tape Drive Twisters, 132 Spindles each, 7" Gauge, 5½" Ring, Equipped with 15 horse power motor.
10—Barber Coleman High Speed Warpers and creels—432 ends per creel 450 yards per minute.
1—Hermas Four Blade Shearing Machine for 45" cloth.
3—Saco Lowell Vertical Openers—equipped with gallows drive.
4—H & B 8 x 4 Speeders—144 Spindles ea.
2—Whitin sprawhirl Cleaners.
20,000—4 & 5½ Lestershire Spools.
2—110 E Barber Coleman Stationary tying-in machines.
1—101 Foster Winder 80 spindle single motor drive.
1—101 Foster Winder 100 Spindles, double motor drive, 550 volts equipped for cones.
12—8 x 4 woonsocket speeders, 152 spindles each.
10—Crompton & Knowles, 1920 Model, duck looms motor driven with motor. Will weave 62" duck varying from 7 to 30 oz.

SAM SCHWARTZ MACHINERY CORPORATION
CHARLOTTE, N. C.
P. O. Box 1461 Telephones 3-7764—3-7765

FOR SALE

1—Sargent 36" Burr Picker with automatic feed
1—E. & H. 66" yard folding machine
3—O.L. #20 High Speed Cap Winders
1—Sargent 48" Rotary Feed with squeeze rolls
1—P&W Doubling & Folding & Measuring Machine, 66"
4—Smith-Drum 50# Hosiery Dyeing Machine, all Monel
1—18" Rag or Shoddy Picker
2—Spencer Automatic Oilers
1—Entwistle ReBeamer, 80" beams
20,000 Wood Spools, 4"x6", 4½"x6"
1—Voelker 66" Press with extra cylinder & jackets
1—Gessner 66" "Jumbo" Press
1—L. & G. Chenille Cutter, all New Knives
1—Set (7) Copper Cans 33"x23"
1—Set (7) Dry Cans, 90" wide, copper
1—84" D.A. Woonsocket Napper 20 rolls, Motor Drive
19 Plush Beams, 70" with 24" flanges, all steel

UNIVERSAL WINDERS
#50's and #90's, rebuilt to order.

FRANK W. WHEELER Co.
1837 East Ruan St., Phila., Pa.
Phone: Jefferson 5-4771

ONE WEATHEROMETER

Manufactured by the Atlas Electric Devices Company, Chicago, Illinois

It is type BWM-C.C., 220 volts, serial number WO-388 and is a 60 cycle unit. The unit was built and delivered in the latter part of 1943 and is in excellent condition and has not been used in the last year.

ELECTRIC OVEN

Manufactured by the Precision Scientific Company, catalog No. 1232

It has a range from 35° to 250° Centigrade, 3,800 watts, Type A. 115-1-60 AC, Serial number 825-135. This unit was also purchased in 1943 and is in excellent condition.

SWITZER BROTHERS
INC.
1220 Huron Road
CLEVELAND 15, OHIO

FOR SALE
75,000 Used 8¾"
WOOL AUTOMATIC BOBBINS
Price and samples on request.
FS-720, Textile World
330 West 42nd St., New York 18, N. Y.

COMPRESSORS
Vacuum Pumps

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1—Whitin Intermediate Picker
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3—H & B Finisher Pickers, 40"
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1—Whitin Bale Breaker, 45", 1920 Model
6—Vertical Openers, Saco-Lowell, H & B, Woonsocket
3—Whitin Downstroke Cleaners, Ball Bearing, 1927 Model
3—Lummus 3-Gate Gyrators

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2—Sets James Smith Woolen Cards, 2 cylinders, 60x60, wooden cylinders, Ring Doffers.
1—Dobson & Barlow 45" Waste Card, flat top, with Breast.

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15—Deliveries Whitin, 5 Delivery Heads, 12" Coilers
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12—11 x 5½ Slubbers, Whitin, Woonsocket, H & B
6—10 x 5 Intermediates, Saco-Pettee
4—H & B 9 x 4½ Intermediates
20—Woonsocket 8 x 4 Speeders

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8—Foster #12 Winders, Semi-Hi Speed, 100 spindles each
8—Universal #50 Cone and Tube Winders
4—#25 Foster Doublers, multiple wind, motor driven
1—Foster #56B Doubler, 1930 model, motor driven, 40 spindles

LOOMS

100—C & K 52½" Reed Space, 20 Harness Double Index Dobbies, non-automatic
38—Stafford, 100" Reed Space, Automatic Shuttle Change, Motor Driven
48—Draper Model HC, 76½" Reed Space, Knowles Worsted Heads, Motor Driven
300—Draper Model X Looms, 44½" Reed space, Lacey and Rooler Tops, Motor Driven
67—Draper Modified D Looms, 65" Reed Space, Roller and Dwight Tops, Belt Driven
24—Draper Model P Looms, 49" Reed Space, Roper Let-off, Belt Driven
96—Draper Model K Looms, 48" Reed Space, 25 Harness Doffier, Motor Driven
32—Draper Model D Looms, 48" Reed Space, 25 Harness Doffier, Motor Driven
86—Draper Modified D Looms, 49" Reed Space, 42 with Doffier, 44 Cam Looms with Dwight Tops, Belt Driven

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16—Campton E Knowles 4x1 Box Automake Looms, 48" between swords, 4 harness cams, Motor Driven
40—Stafford Automake Looms, 68" Reed Space, Rool Top.

THIS IS ONLY A SMALL PART OF LOOMS AVAILABLE—

WRITE OR PHONE US YOUR NEEDS

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10—Whitin Spinning Frames, 2-¾" Gauge, 1-¾" Rings, 272 Spindles, Motor Driven
5—Saco-Lowell Band Drive Spinning Frames, 2-¾" Gauge, 1-⅞" rings, 288 Spindles, 1923 Model

TWISTERS

6—Collins Tape Drive Twisters, 4½" Gauge, 3" Rings, 152 Spindles, 1921 Model
1—Brownell Fly Twister, 96 Spindles
12—Saco-Lowell Dry Twister, Model BC, 7" Gauge, 5½" Vertical Rings, Tape Drive, 132 Spindles, Motor Driven, 1944 Model
4—Saco-Lowell Jack Twisters, 3" Gauge, 1-⅝" Rings, Tape Drive using 50" Jack Spools, 18 Ends per Spool, Motor Driven, 1924-1928 Models.

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1—Set Butterworth *New* Stainless Steel Cans, 17 Cans, 23" Diameter, 45" Face, Vertical Frames, Roller Bearing, Siphons, Traps.
300—Copper Dry Cans, 50" Face, 23" Diameters, Vertical Frames, Removable Journals, Siphon and Bucket
1—Set 40 New Butterworth Stainless Steel Cans, 23" Diameter 130" Face, Vertical Frames, Roller Bearing, Individual Traps, Siphons, etc.
1—Set 36 Copper Horizontal Dry Cans, 30" Diameter, 86" Face
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1—44½" Butterworth 5 Bowl Calender
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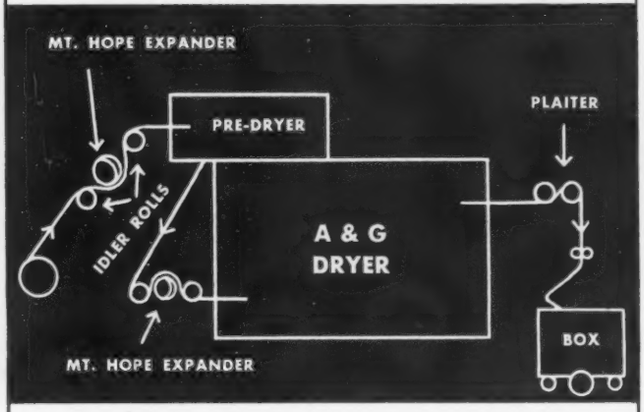
Mount Hope Free-Wheeling EXPANDER



AS USED WITH A&G AIR DRYERS

THE ABOVE DIAGRAM shows how Mount Hope Free-Wheeling Expanders are used in a prominent New England finishing plant with Andrews & Goodrich Air Dryers.

This finisher uses only one expander in front of each dryer. He claims that this is sufficient to keep the cloth at maximum width during the drying process,—free from all wrinkles and creases. It is standard practice with him to replace obsolete or worn out expanders with Mount Hope Free-Wheeling units, when light weight goods are handled. This is because the Neoprene covered, ball bearing rolls are so free turning that they exert minimum tension on the warp.

Other advantages of this expander are as follows:

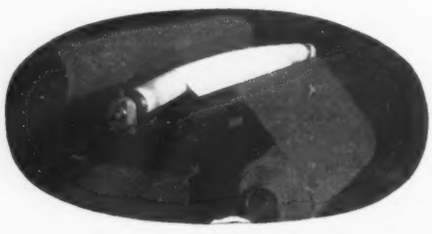
Minimum tension and absence of slippage increases the life of the Neoprene sleeves.

Expander can be set at any desired angle to cloth.

Ball bearings, grease packed, are securely mounted in steel spools to outlast many Neoprene sleeves, and so designed that they cannot stick nor turn on the axle and cut it.

The Mount Hope Free-Wheeling Expander is suitable for all classes of fabrics from rayon marquisette to heavy cotton or rayon tire cord.

Bulletin on request



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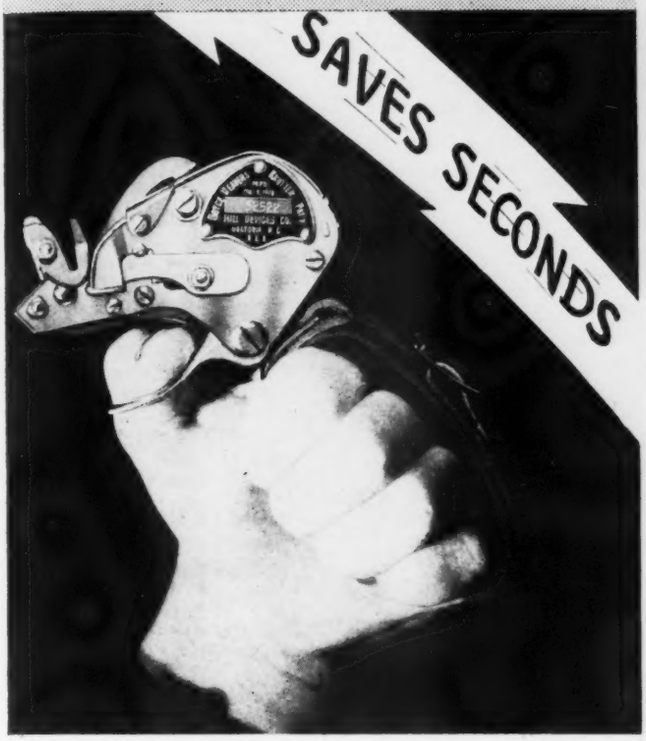
BOYCE WEAVER'S KNOTTER

SAVES SECONDS



. . . . in time because it ties an absolutely perfect weaver's knot with one smooth action. The Boyce Weaver's Knotter is so fast and so dependable that some operators can tie over 5,000 knots on an 8-hour shift.

. . . . in the finished product—the true test of a quality yarn—because the Boyce Weaver's Knotter clips the ends of a weaver's knot clean and even. There are no loose, bulky ends to catch in knitting needles, heddles, reeds and other equipment, and weaken or break the yarn.

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DIVISION OF
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Proved Fungus Resistant by FUNGUS TEST

PRESERVES AND BEAUTIFIES DINGY WET WALLS AND EQUIPMENT

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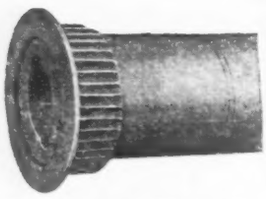
MAKING REVOLVING-EXPANDING CONVEYOR POLES FOR MODEL E PIECE GOODS DRYERS . . .

AN IMPORTANT CONTRIBUTION TO *Fast, Uniform Drying*

Every feature of design and construction in the "NATIONAL" Model E Automatic Piece Goods Dryer plays its part in the *greater production* and better drying quality provided by this machine. Among them are the patented Revolving-and-Expanding Conveyor Poles which, by eliminating creases, uneven exposure to the drying medium, shut-downs for adjustment, and costly re-runs or rejects, carry the goods through the machine with maximum speed, efficiency and economy.

CORE-FLANGED . . .



The "National" Revolving-and-Expanding Pole, of selected wood, has a core of steel directly connected to the heavy-duty, machine finished conveyor chain. Gear wheel flanges on each end of the pole activate the intermittent turning and expanding. The expansion, or stretching action, keeps the material smoothed out, side-to-side, as it is carried forward in evenly-spaced festoons.

The success of "National" patented Revolving-and-Expanding Conveyor Poles in contributing to increased drying capacity and lower costs, is matched by other "National" features of construction, operation and control. Write for complete information or ask our representative to call.

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WEST LEHIGH AVE. & HANCOCK ST., PHILADELPHIA 33, PA.

New England Agent: C. H. INGALLS — Providence, R. I.

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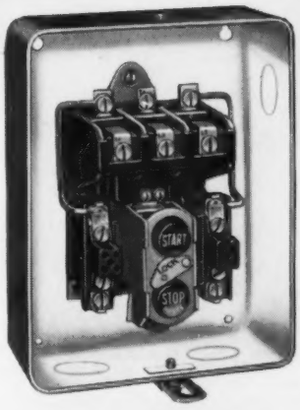
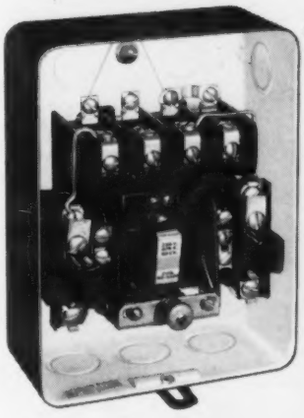
"I've tried them all....

THESE ARE THE STARTERS FOR ME!"



⬅ HAND-OPERATED

Bulletin 609 Motor Starter. Has double break, silver alloy contacts, quick-make and quick-break contact action. Thermal breakers provide motor overload protection. Push button operated. Rugged and reliable.



⬅ AUTOMATIC SOLENOID TYPE

Bulletin 709 Solenoid Starter for remote control. Only one moving part in its simple solenoid mechanism. No pins, pivots, bearings, or hinges to gum up or corrode and cause trouble. Good for millions of operations.

NO CONTACT MAINTENANCE

with A-B Double Break Silver Alloy Contacts

Ask any experienced maintenance man what across-the-line starter he prefers. Chances are he'll say "Allen-Bradley." The reason—Allen-Bradley starters are practically trouble-free. Their patented silver alloy contacts never need maintenance. Any oxides that may form on these contacts are good electrical conductors. Hence they remain in tip-top condition—even after hundreds of thousands of operations. Then, too, the simple, rugged switch mechanism assures long trouble-free life. You can install these starters and forget them. Allen-Bradley Company, 120 W. Greenfield Ave., Milwaukee 4, Wisconsin.

A-B Quality

ALLEN-BRADLEY

QUALITY

MOTOR CONTROLS FOR TEXTILE MILLS

Try and throw this Counter-Wheel!

Exclusive Feature of VEEDER-ROOT COUNTROL

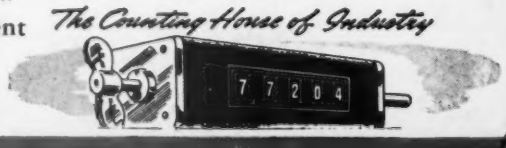
Resists Over-Throwing in all 2-3 Pick, Hank, Yardage, and Knitting Counters

This new "Inner-Locking" Wheel is literally two wheels, one within the other. Disengaged with the shaft-spline, it stubbornly resists over-throwing. And when engaged with the shaft-spline, it readily resets to zero.

This new wheel is made of tough, bright-white plastic . . . for greater wear-resistance, clearer readability of figures . . . and easier cleaning.

So be sure to get the protection of this new Veeder-Root "Inner-Locking" Wheel, on all the new Pick, Hank, Yardage and Knitting Machine Counters you buy. Get in touch with your nearest Veeder-Root office . . . have a Veeder-Root engineer show *and prove* to you the advantages of this latest improvement in all Veeder-Root Counters of the 2-3 type.

The Counting House of Industry



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